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BLS Measures of Compensation

U.S. Department of Labor
Bureau of Labor Statistics
February 1986

Bulletin 2239

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BLS Measures of Compensation

U.S. Department of Labor
William E. Brock, Secretary

Bureau of Labor Statistics
Janet L. Norwood, Commissioner
February 1986

Bulletin 2239

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Preface

The responsibilities of a data collection agency such as the Bureau of Labor Statistics (BLS) must extend beyond the preparation and publication of statistical series. The agency must also make available descriptions of its data and provide guidance as to their appropriate uses and limitations.

This bulletin is designed as an introduction to the various BLS series on employee compensation. It describes each set of data, indicates the manner in which it is developed, and points out where published data may be found. Examples of published statistical tables supplement the discussion. The bulletin thus indicates to data users the scope of available material and provides guidance in the selection of series for particular studies.

This publication was written by members of the staffs of the BLS offices responsible for the various statistical series under discussion. Authors are identified at the end of each chapter. Coordination of the work was provided in the Office of Wages and Industrial Relations by Victor J. Sheifer. The bulletin was prepared for publication by Eugene H. Becker of the Office of Publications.

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Chapter I. Introduction

Close to 100 million persons in the United States were employed as wage or salary workers in 1984. Their wages, salaries, and benefits accounted for three-fourths of our national income.

These magnitudes underscore the importance of a comprehensive and integrated statistical program covering employee compensation. In their role as prices for purchased labor services, wages, salaries, and benefits play an important part in allocating the labor force among occupations, industries, and areas of the country. Furthermore, earnings derived from employment constitute the major source of consumer purchasing power and, hence, influence the demand for the Nation's output of goods and services. At the same time, for the economy as a whole, employee compensation is the primary cost of production and thus affects demand for labor services and the volume of output.

Over the years, in response to diverse needs of public and private data users, the Bureau of Labor Statistics (BLS) has developed a variety of series on compensation. This bulletin is designed to aid data users in selecting the compensation series appropriate for their studies. It covers each of the current BLS programs, describing their outputs, methods of data collection and tabulation, and major uses and limitations. Samples of published tables are included. In addition, an appendix briefly describes series issued by other data producers, chiefly agencies of the Federal Government.

This chapter serves as a point of departure, contrasting the various types of series that are available. It also provides, for easy reference, a tabular summary comparison of the current BLS series.

Pay concepts

At the outset, it is important to recognize that the availability of a variety of statistical series reflects the multi-faceted nature of employee compensation. As already observed, employee pay can be viewed as a price paid to providers of labor services, as a source of consumer purchasing power, or as an element in production costs. Individual series, as a result, may measure *rates of pay, earnings, compensation, labor cost,* or *income*. Although these concepts are related, the differences among them are signficant.

The fundamental concept is the *rate of pay*, consisting of the basic money return to a worker for a unit of time worked or output produced, plus the various employee benefits in effect. This package of a wage rate plus benefit provisions is usually thought of as the "price" of labor and is a dominant consideration in union-management contract negotiations and in personnel policies in establishments with no union contracts.

In one sense, the rate of pay, as just defined, functions as a building block; together with other elements, such as hours worked, it determines the size of employer payments to or on behalf of a worker. Such expenditures constitute employee *earnings* or *compensation*, the former if limited to employer payroll outlays and the latter if payments to public and private pension, health, and welfare funds are included.

Because earnings statistics reflect payroll expenditures flowing directly from employers to workers, these data can be looked upon either as measures of employer expenditures or of worker receipts. Employer expenditures for such benefits as pensions and life insurance, however, are to trust funds or insurance carriers rather than directly to workers. Therefore, in a given time period, employer outlays on compensation do not equal worker receipts. Compensation series tend to focus on payments made by employers rather than on money received by workers.

We should note that the term "compensation" is used in two contexts—first, as a specific concept, and, second, as a general label for worker remuneration. The first of these usages is developed in the preceding paragraphs; the second is found in the title of this bulletin.

Although wage and salary rates may be quoted on either a time or output basis—depending on the pay system in force—earnings and compensation are almost always expressed in units of time—hourly, weekly, monthly, or annual.[1] Compensation series typically exclude nonmonetary items such as employer-provided food, lodging, or merchandise. Also, data usually are presented before deductions such as income taxes withheld, employees' share of Social Security taxes and insurance premiums, and union dues; that is, they refer to *gross* rather than *take-home pay*.

From the employer expenditure side, existing compensation series are not, strictly speaking, measures of *total labor cost*. They do not include costs for such items as employee hiring and training.

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[1] Paid leave normally results in time off from work with a continuation of pay, rather than additional money receipts. To account for this, data on employer outlays for worker compensation may be expressed as expenditures per hour at work as well as on an hours paid for basis.

Income, an even broader concept, focuses on total receipts of individuals, and includes payments from a variety of sources, for example, interest on savings accounts; it is not limited to payments for work performed, as are compensation measures.

Statistics on the level and structure of pay

The distinctions discussed in the preceding section are evident in the Bureau's compensation measurement program. An integral part of this program is the collection and publication of data on occupational wage and salary rates. (See chapter 2.) These rates, as is true of prices generally, are important as allocators of productive resources. Pay differentials among various occupations, firms, industries, and areas affect the relative attractiveness of alternative work opportunities and, consequently, are among the forces influencing workers in their labor market behavior. Similarly, from the employer's side, geographic differentials in wage rates, for example, are given weight in decisions regarding location of new plants.

Occupational wage and salary rate data often are collected by individual industries and local labor markets and, therefore, are useful in studies of both levels of pay and variations in pay according to occupation, industry, and geographic area. Data are summarized to present average pay levels and, also, distributions of workers by pay level in each occupational-industrial-geographic grouping. Separate sets of data also may be developed for union and nonunion employers, for metropolitan and nonmetropolitan areas, and for establishments in various employment size groups.[2]

These occupational data are used for a variety of purposes, including wage and salary administration, union-management contract negotiations, mediation and arbitration proceedings, plant location decisions, occupational counseling, evaluation of job offers to unemployment insurance recipients, minimum wage policy guidance, and analyses of wage differentials among occupations, industries, and areas.

For the most part, occupational pay data are limited to basic wage rates, and exclude premium payments for overtime, weekend, holiday, and late-shift work. Pay increases—but not bonuses—under cost-of-living allowance (COLA) clauses, however, are included. For workers paid piece or other incentive rates, hourly earnings excluding premium pay are collected as a proxy for wage rates.

BLS occupational wage surveys commonly collect limited information on the incidence of employee benefits, for example, the percent of workers covered by paid holiday and vacation provisions, life and health insurance, and private pension plans. Benefits, unlike wages and salaries, typically are uniform for large employee groups within an establishment; ordinarily, there are no separate plans for individual occupations. Consequently, data are reported only for broad employee categories, such as production and related workers or nonsupervisory office clerical employees.

More detailed information on benefit practices is available from a separate Employee Benefits Survey which covers both the general incidence and the specific characteristics of a variety of benefits paid for, at least in part, by the employer. Data are presented separately for three occupational groups—professional-administrative, technical-clerical, and production workers. (See chapter 10.)

BLS also produces several series measuring the level of employee earnings; they provide data on an hourly, weekly, or annual basis. One of these series is developed through a survey of business establishments, covering employment, payrolls, and hours. A second uses data collected in the Current Population Survey—a monthly household survey that emphasizes questions on labor force status. A third series comes from an analysis of reports employers are required to submit in connection with the administration of unemployment insurance laws. Although differing in industrial and occupational coverage, method of data collection, detail published, and timeliness, these series have key elements in common. They reflect the combined influence of money wage and salary rates and labor utilization, that is, aggregate payroll outlays of employers. (See chapters 3, 4, and 5.)

Earnings series are particularly useful in studies emphasizing money flows in the economy, for example, those concerning purchasing power of workers or employer costs.[3] Since the data often are for broad worker groupings, they may be useful also as summary statistics for interindustry or interarea comparisons. Caution must be exercised in such usage, however; the broader the worker coverage of a series, the more difficult it is to interpret the data. For example, in comparing average hourly earnings data to detect interindustry variations in wage rates, it is necessary to consider the degree to which the industries studied differ in job mix, which also affects the level of average hourly earnings.

In addition to measures of wage and salary rates and employee earnings, BLS also develops data on income.[4] They come from both the Current Population Survey (CPS) and a separate survey primarily concerned with consumer expenditures for goods and services. The CPS data permit analysis of income in relation to the employment status of workers. Consumer Expenditure Survey data allow users to relate income data to spending and saving patterns of consumer units. (See chapters 4 and 6.)

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[2] The discussion here emphasizes the ideal. For a specific survey, budget and other factors may limit the amount of detail actually collected and published.

[3] Because series typically measure earnings before taxes and other deductions, they commonly are not precise measures of purchasing power.

[4] At this time, the Bureau does not produce a series on the level and structure of employee compensation. Because of budget constraints, a program of measuring employer compensation expenditures was discontinued after publication of data for 1977. Total compensation, however, is taken into account in measures of pay change discussed in the next section of this chapter.

Statistics on changes in pay

Data users are often interested in pay changes. They must be aware that a comparison of average pay at two points in time does not necessarily provide a meaningful measure of change. For example, average hourly earnings may change not only as a result of changes in wage rates but also because of such factors as employment shifts within and among industries, changes in the volume of work paid at premium rates, and changes in the volume of output under incentive pay plans. Calculation of changes in average hourly earnings over time provides no clue as to the specific forces giving rise to the change.

Examination of changes in average hourly earnings is appropriate for studies of changes in money flows, without regard to the causes of the change. For such studies, the Bureau also provides, in index number form, a more comprehensive series on changes in average hourly compensation. (See chapter 8.)

However, for those who wish to study changes in rates of pay, special statistical series are available and should be used.[5] The Employment Cost Index (ECI) is a comprehensive quarterly measure of changes in the price (wages plus benefit costs) of a standardized mix of purchased labor services, much as the Bureau's Consumer Price Index measures changes in the price of a standardized "market basket" of consumer goods and services. The ECI covers the private nonfarm economy, excluding households, plus State and local governmental units. (See chapter 7.)

To provide information on pay changes resulting from collective bargaining, BLS reports on the wage and benefit terms of individual major collective bargaining settlements. It also provides quarterly statistical summaries of the size of these changes. (See chapter 9.)

Information on changes in rates of pay is valuable to a variety of users. Economists, for example, use such data to analyze inflationary tendencies. Furthermore, union and management negotiators commonly use data on collective bargaining settlements reached elsewhere in their own deliberations.

Current-dollar and deflated series

Studies of pay changes may be concerned with effects on workers' purchasing power, in which case it is necessary to take into account movements in consumer prices. To facilitate such studies, a series may be deflated, that is, adjusted for price changes by dividing the pay data for individual time periods by the Consumer Price Index for the respective periods. Pay is thus expressed over the time period in dollars of constant purchasing power.

Data presentation

For many series, data are initially issued in a news release, followed by presentation in a BLS periodical such as *Employment and Earnings* or *Current Wage Developments*. In other cases, data are presented in summary reports, BLS bulletins, or *Monthly Labor Review* articles. Both the *Monthly Labor Review* and *Current Wage Developments* also contain convenient collections of data from BLS series. A more detailed compilation of major Bureau series is in the *Handbook of Labor Statistics*.[6]

BLS data typically are obtained through sample surveys in which BLS pledges to use the information collected for statistical purposes only, and not to reveal data furnished by individual respondents. This confidentiality pledge may restrict the amount of detail published for a given survey.

An increasing number of data users are interested in obtaining survey findings on computer tapes. Such tapes often may be purchased from the Bureau. However, micro tapes—those containing data for individual respondents—are edited to prevent identification of respondents.

Selection of series

As the preceding discussion emphasizes, several general questions need to be answered before data users can determine which statistical series would be most useful for their work:

1. Should the data cover rates of pay or money flows?

2. Are wage data sufficient, or is there need for statistics on the total compensation package?

3. Should the data be for pay levels or for pay changes?

Answers to these questions will limit the range of series from which a choice must be made. Nevertheless, several series may still seem appropriate. For example, the Bureau produces several series on the level of employee earnings.

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[5] In some cases, it is possible to adjust existing series to more easily reveal underlying wage-rate movements. Thus, the Bureau's Hourly Earnings Index adjusts average hourly earnings data to exclude the effects of fluctuations in overtime premiums in manufacturing (the only industry sector for which overtime data are available) and shifts in the proportion of workers in high- and low-wage industries. Seasonal adjustment of the data, furthermore, removes the influence of changes that normally occur at the same time and in about the same magnitude each year. Similarly, indexes developed from occupational data collected in area wage surveys reduce the effect of employment shifts. Nevertheless, while these adjustments provide closer approximations, they do not yield the ideal measures.

[6] For the most recent edition, see BLS Bulletin 2217, issued in June 1985.

Choice of a particular series involves such considerations as the portion of the economy covered by the data—few series cover all groups of workers or all industrial sectors. Furthermore, establishment surveys may exclude units below a specified employment size. Another important consideration may be the amount of detail available in terms of industry, area, and type of worker. Also, the time period covered may be significant; for some purposes annual series may suffice, while other investigations may require monthly or quarterly data. In any event, it is essential that users be aware of the definitions given to the items studied. For example, a survey of employee earnings may cover only regular payroll outlays, and exclude yearend and other irregularly paid bonuses.

Finally, users should be familiar with the methods of compiling the series, because the conceptual framework, the amount and type of detail, and the accuracy of the data may be affected. We have already seen that some earnings series come from a survey of establishments that provides data on employment, payrolls, and hours; others from household responses in the Current Population Survey. In addition, earnings statistics are developed from establishment reports filed pursuant to regulations of agencies administering unemployment insurance programs.

Table 1.1 and the detailed descriptions in the following chapters are designed to aid users in treating these considerations. The table classifies current BLS series in accordance with their emphasis on rates of pay or employer expenditures and on levels of pay or changes in levels. In addition, information is presented on industry and worker coverage, frequency of publication, types of compensation included, and data sources.

Despite the great variety of series produced, available statistics may not precisely meet the needs of a user. In such instances, an effort should be made to select the closest approximation to the desired data and to take account of the deficiency in the analysis.

Comparing statistical series

Analysts frequently compare compensation series. One goal may be the indirect study of the *difference* between two available series. At other times, the aim is to explain variations in the signals given out by different sets of data. For example, measures of wage-rate change might show a decline in the size of wage gains over a given time period, while the increase in average hourly earnings might accelerate.

The more closely related the series being compared, the fewer are the factors that may produce divergent results and the greater the confidence that can be placed in explanations for differences. Aside from reporting errors, variations in series findings may stem from differences in one or more of the following:

1. Concept
2. Worker coverage
3. Geographic coverage
4. Industrial coverage
5. Establishment employment size cutoff
6. Timing of data collection
7. Unit of measurement
8. Collection techniques
9. Estimating techniques
10. Sample size and variability

To minimize these differences, uniform definitions are employed, where possible, in the various surveys. Thus, industrial classification follows the *Standard Industrial Classification Manual* (SIC), issued by the Office of Management and Budget (OMB). The *SIC Manual* allows for classification of establishments on a 1-, 2-, 3-, or 4-digit industry code basis, depending on the level of detail desired. One-digit classification is at the broad industry division level (for example, manufacturing), while 2-digit classification provides major subclassifications of industry divisions, such as primary metal industries. These, in turn, can be divided into 3-digit groups (iron and steel foundries, for example) and still more narrowly defined 4-digit industries (gray iron foundries).

Similarly, locality data commonly are for metropolitan statistical areas as defined by OMB. A *Standard Occupational Classification Manual* has also been developed, but the varying degree of specificity in occupational definitions required among the surveys precludes its use across all of the Bureau's statistical programs.

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and Industrial Relations

Table 1.1 Basic characteristics of BLS compensation series

Series	Compensation coverage	Worker coverage	Industry coverage	Geographic coverage	Emphasis on pay levels or change
Occupational wage surveys	Wages and salaries.	Primarily nonsupervisory employees in selected occupations.	Varies by survey.	Varies by survey—nationwide, selected regions and areas.	Levels.
Average hourly and weekly earnings—establishment data	Wages and salaries.	Production and nonsupervisory workers.	Private nonfarm economy, excluding households.	Nationwide.	Levels.
Earnings statistics from the Current Population Survey	Primarily wages and salaries; also total money income.	Wage and salary workers, all employed workers.	All industries.	Nationwide.	Levels.
Wages of workers covered by unemployment insurance (UI) programs	Wages, salaries, and other payments covered by UI taxes.	All workers covered by Federal and State UI laws.	All industries	Nationwide, Statewide, county level, and area.	Levels.
Income and earnings data from the Consumer Expenditure Survey	Wages, salaries, and other sources of income.	Urban civilian noninstitutional population.[2]	([1])	All urban areas.[2]	Levels.
Employment Cost Index	Wages, salaries, and employer costs for employee benefits.	All employees.	Private nonfarm economy, excluding households, and State and local governments.	Nationwide.	Change.
Hourly compensation measures of the Office of Productivity and Technology	Wages, salaries, and supplements plus estimate of labor compensation of self-employed.	All employees plus the self-employed.	U.S. business sector.	Nationwide.	Change.

Series	Emphasis on pay rates or employer expenditures[3]	Data source	Data reported	Frequency of publication	Where published[4]
Occupational wage surveys	Rates.	Statistical survey.	Hourly, weekly, monthly, or annual straight-time earnings, by occupation, usually with incidence of benefits.	Annual or longer.	BLS bulletins, news releases, locality releases.
Average hourly and weekly earnings—establishment data	Expenditures.	Statistical survey.	Hourly and weekly earnings, with industry and geographic detail.[5]	Monthly.	*Employment and Earnings*, news releases.
Earnings statistics from the Current Population Survey	Rates and expenditures.	Statistical survey.	Hourly rates, weekly and annual earnings, money income; demographic detail.	Quarterly or annual.	*Employment and Earnings, Monthly Labor Review*, news releases.
Wages of workers covered by unemployment insurance (UI) programs	Expenditures.	Employer reports for administration of UI laws.	Weekly and annual earnings per employee, aggregate annual payrolls; industry and area detail.	Annual.	*Employment and Wages*, news releases.
Income and earnings data from the Consumer Expenditure Survey	Expenditures	Statistical survey.	Annual income, by source.	Annual.	BLS bulletins, news releases.
Employment Cost Index	Rates.	Statistical survey.	Indexes and quarterly and annual changes in wages and salaries and total compensation costs.	Quarterly.	*Current Wage Developments*, news releases.
Hourly compensation measures of the Office of Productivity and Technology	Expenditures.	Employee compensation data from national income accounts; hours and proprietors' compensation estimated by BLS.	Indexes and quarterly and annual changes in hourly compensation.	Quarterly.	*Employment and Earnings*, news releases.

See footnotes at end of table.

Table 1.1 Continued—Basic characteristics of BLS compensation series

Series	Compensation coverage	Worker coverage	Industry coverage	Geographic coverage	Emphasis on pay levels or change
Negotiated wage and benefit changes	Wages, salaries, and private benefits.	Production and nonsupervisory workers in bargaining units of 1,000 workers or more (5,000 or more for wages and benefits combined).	Private nonfarm economy; State and local governments.	Nationwide.	Change.
Employee Benefits Survey	Selected employee benefits.	Full-time employees.	Medium and large private nonfarm establishments.	Nationwide.	Levels.

Series	Emphasis on pay rates or employer expenditures[3]	Data source	Data reported	Frequency of publication	Where published[4]
Negotiated wage and benefit changes	Rates.	Largely secondary sources.	Terms of individual settlements; average pay rate changes in cents per hour and percent.	Terms of settlements—monthly; statistical summaries—quarterly for private industry, semiannually for State and local government.	*Current Wage Developments*, news releases.
Employee Benefits Survey	Rates.	Statistical survey.	Incidence of benefit plans and plan provisions, by broad occupational group.	Annual.	BLS bulletin, *Monthly Labor Review*, news releases.

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[1] Not applicable.

[2] Rural areas also will be covered beginning with the publication of 1984 data.

[3] Series on pay rates are concerned with the "price" of labor services, while series on expenditures measure money flows.

[4] Summary data for many of the series can be found in the *Monthly Labor Review, Current Wage Developments*, and the *Handbook of Labor Statistics*. Unpublished data, including computer tapes, also may be available.

[5] Indexes of change also are developed removing the effects of overtime in manufacturing and interindustry employment shifts.

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Chapter 2. Occupational Wage Surveys

Bureau of Labor Statistics occupational wage surveys develop averages and distributions of straight-time earnings for a large number of jobs at a given point in time. The backdrop may be a specific industry, an individual labor market, or the continental United States. Although most of the surveys regularly provide information on the incidence of employee benefits, they are not designed to provide a measure of total compensation, that is, wages and benefits combined.

The survey data, collected largely by personal visit, are provided by employers on a voluntary basis. In return, the Bureau pledges confidentiality for the information and publishes it in a manner that will avoid disclosure of individual establishment rates.

Survey results—published in BLS news releases, summary reports, bulletins, and the *Monthly Labor Review*—are used for a variety of purposes. These include wage and salary administration, plant location studies, collective bargaining, cost evaluations, and Federal Government wage policies.

The BLS program of occupational wage surveys has three major components: (1) *Industry wage surveys* in selected manufacturing and nonmanufacturing industries covering occupations unique to a particular industry; (2) *area wage surveys* in selected metropolitan areas, or labor markets, covering occupations common to a variety of manufacturing and nonmanufacturing industries; and (3) a *national survey of professional, administrative, technical, and clerical pay* in medium and large firms of private industry, commonly referred to as the PATC survey.[1]

Background

The Bureau of Labor Statistics has systematically collected wage data by occupation and industry since the turn of the century—first by industry, then across industry lines by metropolitan area, and most recently, across industry lines on a nationwide basis, for the PATC survey. Each change in coverage was dictated mainly by government requirements—such as administration of wage stabilization policies during and immediately following major military conflicts, Federal minimum wage legislation, and setting pay for Federal white-collar workers.

Although differing in industrial, geographic, and occupational coverage, the surveys described below are based on a common set of administrative forms, a single manual of procedures, and common concepts and definitions. In all surveys, establishments are classified by industry as defined in the 1972 edition of the *Standard Industrial Classification Manual* prepared by the U.S. Office of Management and Budget; and for most surveys, Standard Metropolitan Statistical Area definitions are used.[2] Where possible, uniform job descriptions are used for the occupations surveyed.

Description of surveys

Industry wage surveys provide data for occupations selected to represent a range of activities performed by workers during a specified payroll month. In selecting the occupations, primarily nonsupervisory, consideration is given to their prevalence in the industry, definiteness and clarity of duties, use as reference points in collective bargaining, and importance in representing the industry's wage structure.

In addition to reporting straight-time, first-shift wage rates (or hours and earnings for incentive workers) of individuals in the selected occupations, surveys in most industries also provide pay distributions for broad employee groups, such as all production and related workers or all nonsupervisory workers.

Weekly work schedules; shift operations and shift pay differentials; paid holiday and vacation provisions; and incidence of health, insurance, and pension plans are included in the information collected, along with other items of interest in a particular industry, for example, incidence of cost-of-living adjustment (COLA) provisions or company-provided work clothing. The studies also report estimates of workers covered by labor-management agreements, proportions of workers employed under incentive pay plans, and the extent to which establishments provide a single rate or a range of rates for individual job categories.

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[1] In 1986, the PATC survey will begin a 3-year plan to expand to smaller establishments, more service industries, and State and local governments.

[2] The Office of Management and Budget replaced the designation "Standard Metropolitan Statistical Areas" with "Metropolitan Statistical Areas" (MSA's) and "Primary Metropolitan Statistical Areas" (PMSA's) in June 1983. These new designations are being gradually introduced into the occupational wage surveys as the program schedules permit.

Twenty-five manufacturing and 15 nonmanufacturing industry surveys, accounting for about 22 million employees, are conducted at the 3- or 4-digit SIC level. A majority are on a 5-year cycle, but a number of comparatively low-wage industries are on a 3-year cycle. The program covers a broad cross-section of the Nation's economy, including automobile and steel manufacturing as well as banking, computer data services, and hospitals.

Nearly all of the manufacturing, utility, and mining industries are studied on a nationwide basis, and estimates are provided also for broad regions and major local areas of employment concentration wherever possible. Surveys in trade, finance, and service industries usually are limited to about two dozen metropolitan areas. Nationwide surveys generally develop separate employment and wage estimates by size of establishment, metropolitan/nonmetropolitan area, labor-management agreement coverage, and type of product or plant group. (See figures 2-1 through 2-4 for the types of data produced from this program.)

Area wage surveys annually provide employment and wage data for selected office clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas studied.

The 70 Standard Metropolitan Statistical Areas in this survey program as of 1985 were selected on a probability basis to represent all metropolitan areas of the United States, excluding Alaska and Hawaii.[3] This sampling procedure permits BLS to develop national and regional estimates by weighting the individual area results from each year's program.

The duties and responsibilities in the occupations studied are representative of those found in white-collar jobs, skilled maintenance trades, and other nonproduction manual jobs. Weekly salaries reported for individuals in white-collar jobs relate to regular straight-time salaries paid for standard workweeks. Earnings information for plant workers excludes late-shift differentials and premium pay for overtime.

Industry divisions included in these surveys are (1) manufacturing; (2) transportation, communications, and other public utilities; (3) wholesale trade; (4) retail trade; (5) finance, insurance, and real estate; and (6) selected service industries. Establishments employing fewer than 50 workers are excluded. However, in manufacturing; transportation, communications, and other public utilities; and retail trade in the 13 largest areas, establishments must employ a minimum of 100 workers to be included in the survey.

In addition to the all-industry pay averages and distributions of workers by earnings classes, data are provided separately for manufacturing and nonmanufacturing in each area, and for transportation, communications, and other public utilities in all but two areas (figure 2-5). In 31 of the larger areas, wage data are presented separately for establishments that have 500 workers or more.

Area wage surveys also develop tabulations on percentage wage increases, adjusted for changes in employment, for industrial nurses and four broad occupational groups (figure 2-6); occupational pay relationships within individual establishments (figure 2–7); and interarea pay comparisons—area pay levels expressed as percentages of the national average for office clerical, electronic data processing, skilled maintenance, and unskilled plant workers (figure 2–8).

Data on weekly work schedules; paid holiday and vacation practices; and health, insurance, and pension plans are recorded separately for nonsupervisory office workers and production and related workers. Information relating to shift operations and shift pay differentials is published for production workers in manufacturing, while data on minimum entrance rates are collected for inexperienced office workers in all industries. Wage data are collected annually; establishment practices and benefit items are studied every 3 years.

Area type wage surveys also have been conducted annually since 1967 under contract with the Employment Standards Administration of the U.S. Department of Labor for use in administering the Service Contract Act of 1965. Survey scope and method are the same as for the Bureau's regular area surveys, but a more limited number of occupations and benefits are studied and data are published only for all industries combined. Data on incidence of paid holidays; vacation practices; and health, insurance, and pension plans are collected every 3 years.

Both programs of area wage surveys are conducted throughout the calendar year, with each survey relating to a specific month.

The National Survey of Professional, Administrative, Technical, and Clerical Pay (PATC) provides broadly based information on white-collar salary levels and distributions in medium and large firms of private industry as of March each year. Approximately 110 occupational work levels were studied in 1985 selected from the following fields: Accounting, legal services, personnel management, engineering and chemistry, purchasing, photography, drafting, computer science, and clerical (figure 2–9). Definitions for these occupations provide for classification of employees according to appropriate work level. Although reflecting duties and responsibilities in private industry, the definitions are designed to be translatable to specific pay grades of Federal white-collar employees. As a result, this survey provides information suitable for use in comparing pay between salaried employees in the Federal civil service and their counterparts in private industry. Data from the PATC survey are used as a principal element in the pay setting process for Federal white-collar employees.

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[3] Beginning in 1987, the Bureau's Area Wage Survey program will increase its sample of areas from 70 to 90, with 61 being studied each year. The 32 largest areas, in terms of nonagricultural employment, will be surveyed annually and two groups of 29 areas each will be surveyed in alternate years. All of the areas will be defined as Metropolitan Statistical Areas or Primary Metropolitan Statistical Areas as defined by the Office of Management and Budget through October 1984.

Monthly and annual average salaries are reported by occupational work level. Data relate to the straight-time salary corresponding to the employee's normal work schedule, excluding overtime hours. Salary averages are presented for all establishments covered by the survey, establishments employing 2,500 workers or more, and for metropolitan areas as a group.

Industry divisions included in the PATC survey are (l) mining; (2) construction; (3) manufacturing; (4) transportation, communications, electric, gas, and sanitary services; (5) wholesale trade; (6) retail trade; (7) finance, insurance, and real estate; and (8) selected services.

The minimum establishment size for the survey is 50, 100, or 250 employees, depending on the industry. This minimum has been adjusted at various times since 1961 in response to the specifications of the President's Pay Agent (the Secretary of Labor and the Directors of the Office of Personnel Management and the Office of Management and Budget). The Agent has responsibility for making salary comparisons between Federal white-collar workers and their private sector counterparts and recommending pay increases for Federal white-collar workers based on these comparisons. Because the survey scope is subject to change, users are directed to the published bulletins for a description of current practice.

Survey concepts

The Bureau's occupational wage surveys summarize a highly specific wage measure—the rate of pay for individual workers, excluding premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries,[4] as well as profit-sharing payments, attendance bonuses, Christmas or year-end bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—under cost-of-living allowance clauses and incentive payments, however, are included. For workers paid under piecework or other types of production incentive pay plans, an hourly earnings figure serves as a proxy for the wage rate; it is computed by dividing straight-time earnings over a time period by corresponding hours worked.

Survey occupations are defined in advance through a uniform set of job descriptions. Because of the emphasis on comparability of occupational content across establishments, these descriptions primarily serve to identify the essential elements of skill, difficulty, and responsibility that make up the job. Consequently, the Bureau's descriptions may differ significantly from those of individual establishments, or which include detailed work arrangements, or from those used for other than wage survey purposes. In general, the Bureau's survey job descriptions are more specific than those published in the *Standard Occupational Classification Manual*, prepared by the U.S. Office of Management and Budget.

In applying the survey job descriptions, the Bureau's field representatives exclude working supervisors and those paid less than the established job rate, such as apprentices, learners, beginners, trainees, handicapped workers, part-time or temporary workers, and probationary workers unless instructed otherwise.

Tabulations on the incidence of paid holidays, paid vacations, and health, insurance, and pension plans are based on the assumption that plans are applicable to all nonsupervisory production or office workers if a majority of such workers are eligible or can expect eventually to qualify for the practices listed. Data for insurance and pension plans are limited to plans for which at least a part of the cost is borne by the employer. Informal provisions are excluded. (For a description of the Bureau's comprehensive study of employee benefits in medium and large firms, see chapter 10 of this bulletin.)

Survey methods

Planning. The needs of major users are a prime consideration in designing the Bureau's multipurpose occupational wage studies. Consultations are held with appropriate management, labor, and government representatives to obtain views and recommendations related to scope, timing, selection and definition of survey items, and types of tabulations. Particularly in planning surveys in specific industries, these discussions supplement feedback received from the Bureau's regional offices on their experiences in collecting data for the previous study.

The industrial scope of each survey is identified in terms of the classification system provided in the *Standard Industrial Classification Manual*. The scope may range from part of a 4-digit code for an industry study to a uniform combination of broad industry divisions and specific industries for either the area wage surveys or the national survey of professional, administrative, technical, and clerical pay.

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[4] Performance bonuses in the auto industry provide a specified percentage of pay for all hours compensated during the preceding 12 months. In aerospace, current agreements call for lump-sum payments equal to a specified percentage of gross earnings in the preceding 12 months.

The minimum establishment size included in a survey is set at a point where the possible effect of the excluded establishments on pay averages is regarded as negligible for most of the occupations surveyed. Another practical reason for the adoption of size limitations is the difficulty encountered in classifying workers in small establishments where they do not perform the specialized duties indicated in the job definitions.

Considerations in timing of industry wage surveys include expiration dates of major labor-management agreements, deferred wage adjustments, seasonality of production, and special needs of users. Whenever possible, area wage surveys are timed to follow major wage settlements as well as to meet the legislative needs of Federal agencies.

The types of occupations studied and the criteria used in their selection are identified in the description of the various types of surveys. The job list for each survey is selected to represent a reasonably complete range of rates in the wage structure for the employment categories involved, for example, production and related workers in a specific manufacturing industry—or nonsupervisory office, maintenance, material handling, and custodial workers in a metropolitan area. Technological developments or user interests may dictate changes over time in the job lists and definitions. New definitions for jobs usually are pretested in a variety of establishments prior to their use in a full-scale survey.

Data collection. Bureau field representatives typically visit the sample establishments in a survey and collect data for a specified payroll period. They carefully compare job functions and factors in the establishment with those included in BLS job definitions. This job matching process may involve review of records (such as pay structure plans, organizational charts, and company position descriptions), interviews with appropriate officials, and observation of jobs within establishments. A satisfactory completion of job matching permits acceptance of company-prepared reports where this procedure is preferred by the respondent. Generally, however, the field representative secures wage or salary rates (or hours and earning data, when needed) from payrolls or other records and data on the selected employer practices and supplementary benefits from company officials, company booklets, or labor-management agreements.

Area wage surveys in each locality are conducted by personal visits every third year, with partial collection by mail or telephone in the intervening years. Establishments participating in the mail collection receive a transcript of the job matching and wage data obtained previously, together with the job definitions. The returns are scrutinized, and questionable entries are checked with the respondent. Visits are made to establishments not suitable for other types of collection, those not responding to the mail or telephone request, and those reporting unusual changes from previous-year data.

The work of field representatives is checked for completeness and quality of reporting and accuracy in job matching. Revisits are made by supervisory and senior representatives on a selective basis. Systematic reviews of the validity of survey definitions also are maintained.

Sampling. All surveys are conducted on a sample basis using a suitable sampling "frame," that is, a list of establishments which fall within the designated scope of the survey. The frame is as close to the universe as possible but is often incomplete. BLS uses frames primarily compiled from lists provided by administrative or regulatory government agencies (chiefly State unemployment insurance agencies). These may be supplemented by data from directories, trade associations, labor unions, and other sources as needed. For survey purposes, an "establishment" generally refers to a single physical location in manufacturing industries and to all outlets of a company within an area or county in nonmanufacturing industries.

The survey design employs a high degree of stratification. Each geographic-industry unit for which a separate analysis is to be presented is sampled independently. Within these broad groupings, finer stratification by product (or other pertinent attribute) and size of establishment is made. Textile mills, for example, are classified by whether they spin yarn, weave cloth, or both. Such stratification is important if the occupational structure differs widely among the various industry segments.

The sample for each industry-area group is a probability sample, that is, each establishment has a predetermined chance of selection. However, in order to secure maximum accuracy at a fixed level of cost (or a fixed level of accuracy at minimum cost) the sampling fraction used in the various strata, or sampling cells, ranges downward from "all" large establishments through declining proportions of the establishments in each smaller size group. Each sampled stratum will be represented in the sample by a number of establishments roughly proportionate to the stratum's share of total employment. The method of estimation employed yields unbiased estimates by the assignment of proper weights to the sampled establishments.

The size of the sample in a particular survey depends on the size of the universe, the diversity of occupations and their distribution, the relative dispersion of earnings among establishments, the distribution of the establishments by size, and the degree of accuracy required.

Area wage surveys are limited to selected metropolitan areas, which form a sample of all such areas and, when properly combined (weighted), yield employment and wage estimates at the national and regional levels. The sample of areas is based on the selection of one area from a stratum of similar areas. The criteria of stratification are region, type of industrial activity as measured by percent of manufacturing employment, and major industries. Each area is selected with its probability of selection proportionate to its nonagricultural employment. The largest metropolitan areas are self-representing, that is, each one forms a stratum itself and is certain of inclusion in the area sample.

Estimating procedures. Estimated average earnings (hourly, weekly, monthly, or annual) for an industry or an occupation are computed as the arithmetic mean of individual employee earnings.

All estimates are derived from the sample data. The averages for occupations, as well as for industries, are weighted averages of individual earnings and are not computed on an establishment basis. Supplementary benefit provisions which apply to a majority of the production or office workers in an establishment are considered to apply to all production or office workers in that establishment and are considered nonexistent when they apply to less than a majority.

To obtain unbiased estimates, each establishment is assigned a weight that is the inverse of the sampling ratio for the stratum from which it was selected; for example, if a third of the establishments in one stratum are selected, each of the sampled establishments is given a weight of 3. In the area wage survey program, where a sample of selected metropolitan areas is used to represent all such areas, another stage of sampling and weighting is used to expand the individual area estimates to national and regional levels.

Nonresponse adjustment. BLS occupational wage surveys have response rates generally exceeding 80 percent of establishments contacted. However, when a sample establishment does not provide data, the weights of responding sample establishments from the same stratum or sampling cell are increased to adjust for the missing data. No adjustment is made for establishments that are out of business or outside the scope of a survey.

Reliability. Results of the surveys will be subject to both sampling and nonsampling error. Sampling errors occur because observations come from a sample, not the entire population or universe defined for a survey. They will not be uniform for the occupations studied because the dispersion of earnings among establishments and the frequency of occurrence of an occupation differ. In general, the sample is designed so that the chances are 9 out of 10 that the published estimates on average earnings do not differ by more than 5 percent from the averages that would be obtained by using data from all establishments in the survey universe.

Estimates of employment in a given occupation may have considerable sampling error, due to the wide variation in staffing patterns among establishments. (It is not unusual to find sampling errors of as much as 20 percent.) Hence, the estimated number of workers can be interpreted only as a general guide to the relative importance of various occupations.

Nonsampling error can come from a number of sources, including an inability to obtain information from some establishments; definitional difficulties; inability to provide correct information by respondents; errors in recording or coding the data obtained; and other errors of collection, response, coverage, and estimation for missing data. Although not specifically measured, the surveys' nonsampling errors are expected to be minimal due to relatively high response rates, well-trained field representatives, careful review of the data, and other survey controls and procedures.

Presentation of data

Survey results are published in BLS bulletins, reports, news releases, and the Bureau's *Monthly Labor Review*. Industry wage and area wage survey reports and bulletins are issued throughout the year as the surveys are completed. The bulletin on the national survey of professional, administrative, technical, and clerical pay, preceded by a news release in July or August, becomes available each fall. Copies of BLS reports and releases are available upon request. Bulletins are sold by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, GPO bookstores, and the BLS Chicago Regional Office listed on the inside back cover of this bulletin. A brief discussion of some features related to these publications follows.

When an industry survey is designed to yield estimates for selected States or areas, summary reports are published separately as this local information becomes available. Industry surveys limited to selected areas do not provide pay tabulations by metropolitan/nonmetropolitan area, establishment size, or labor-management agreement coverage that generally are included in reports on nationwide surveys. Regardless of geographic scope, industry reports record the incidence of incentive pay plans and, to the extent possible, show pay data separately for time and incentive workers.

Area wage survey reports and bulletins provide percentage pay increases, adjusted for changes in employment, for industrial nurses and four broad occupational groups: Office clerical, electronic data processing, skilled maintenance, and unskilled plant workers. These increases are computed annually, separately for all industries, manufacturing, and nonmanufacturing, for each metropolitan area studied, for all metropolitan areas combined, and for four broad Census regions. The computations include data only from establishments included in both years of the survey being compared.

Pay relatives for the same broad occupational categories, expressing area average pay as a percent of the national average, are published each summer in two reports: *Wage Differences Among Metropolitan Areas* and *Wage Differences Among Selected Areas*. (The first of these reports covers the 70 areas in the area wage survey program; the latter covers areas surveyed for the Employment Standards Administration.) These reports permit ready comparisons of average pay levels among areas.

Estimates of labor-management agreement coverage of plant and office workers are developed every third year by each area wage survey. Occupational pay relationships within individual establishments are summarized annually in individual area bulletins as illustrated in figure 2-7.

The annual bulletin, *National Survey of Professional, Administrative, Technical, and Clerical Pay* (PATC), presents occupational salary averages and distributions on an all-industry basis, nationwide and separately for all metropolitan areas combined, and for establishments employing 2,500 workers or more. Average pay levels by industry division are shown as percentages of the all-industry averages. Salary trend estimates for the occupations studied are included as a byproduct of the survey.

The *Monthly Labor Review* regularly publishes articles on the occupational wage surveys in two forms: Research summaries alert interested parties to a survey that has been completed, by providing highlights of the findings. Special topical articles provide in-depth analyses of wages and related benefits. (See references at the end of this chapter for specific *MLR* articles.)

In addition to the survey publications, BLS regularly makes computer tapes available for sale on the area wage and PATC surveys. Requests for computer tapes on industry wage surveys are considered on an individual survey basis. Filling such requests primarily depends upon the Bureau's ability to protect the identity of respondents or their data.

Uses and limitations

Occupational wage data developed from BLS surveys have a variety of uses. They are used by Federal, State, and local agencies in wage and salary administration and in the formulation of public policy on wages, for example, minmum wage legislation. They are of value to Federal and State mediation and conciliation services and to State unemployment compensation agencies in judging the suitability of job offers. Knowledge of levels, structure, and trends of pay rates by occupation, industry, locality, and region is required in analyzing current economic developments and in studies relating to wage dispersion and differentials. Special *Monthly Labor Review* articles have featured such analyses based on BLS occupational wage surveys.

Bureau data are used in connection with private wage or salary determinations by employers or through the collective bargaining process. To the extent that wages are a factor, survey data also are considered by employers in plant or office location and in cost estimating related to contract work.

Occupational wage surveys are not designed to supply mechanical answers to questions of pay policy. As suggested earlier, limitations are imposed in the selection and definition of industries, of geographic units for which estimates are developed, of occupations and associated items studied, and in determination of periodicity and timing of particular surveys. Depending upon user needs, it may be necessary to interpolate for occupations or areas missing from a survey on the basis of knowledge of pay relationships.

Because of interestablishment variation in the proportion of workers in the jobs studied and in the general level of pay, the survey averages do not necessarily reflect either the absolute or relative relationships found within the majority of establishments. As mentioned earlier, however, area wage survey bulletins provide some insights into intraestablishment pay relationships through special analytical tables.

The incidence of incentive pay systems may vary greatly among the occupations and establishments studied. Because average hourly earnings of incentive workers generally exceed those of time-rated workers in the same job, data are shown separately for the two groups in industry wage surveys, whenever possible. Incentive plans apply to only a very small proportion of the workers in the indirect plant jobs studied in the area wage program.

Although year-to-year changes in pay averages for a job or job group primarily reflect general wage and salary changes or merit increases received by individuals, these averages also may be affected by other factors. Common among these are labor turnover, labor force expansions and contractions for other reasons, and changes in the proportion of workers employed in high- and low-paying establishments. A labor force expansion might increase the proportion of workers in lower paid, entry type jobs and thereby tend to lower the average; or the closing of a relatively high-paying establishment could cause average earnings in an area to drop.

Much of this problem has been overcome for area wage survey measures of pay change by holding establishment employment constant while computing percent increases in earnings. That is, the previous and current-year earnings of each establishment are weighted by that establishment's previous year's employment. Under this system, measurement of change is limited to establishments surveyed in two consecutive years.

The effects of employment shifts among occupations between survey dates also are eliminated in measuring average earnings increases for workers covered by the PATC survey and by the machinery industry wage survey. Employment shifts among establishments or turnover of establishments included in survey samples, however, are not controlled in these computations, as they are in calculating area wage survey trends.

In general, the occupational wage survey programs are designed to measure pay levels and pay structure at specified points of time, rather than wage trends. For this reason, users are directed to other BLS series that are more appropriate indicators of wage change, such as the Employment Cost Index (see chapter 7 of this bulletin).

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Figure 2.1

Table 1. Average hourly earnings by selected characteristics

(Number of production workers and average straight-time hourly earnings[1] in men's and boys' suits and coat manufacturing establishments by selected characteristics, United States and selected regions,[2] June 1984)

Characteristic	United States[3]		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
All production workers[4]	46,716	$6.29	4,167	$6.72	20,100	$6.59	4,592	$6.87	9,891	$5.41	1,485	$4.97	4,642	$6.65
Men	9,193	7.23	1,144	7.29	5,558	7.49	-	-	973	5.74	-	-	780	7.73
Women	36,161	6.03	3,023	6.51	13,855	6.26	3,547	6.67	8,918	5.37	1,323	4.86	3,862	6.44
Size of community:														
Metropolitan areas[5]	33,334	6.56	4,167	6.72	17,204	6.61	2,609	7.10	2,678	6.30	1,485	4.97	4,308	6.73
Nonmetropolitan areas	13,382	5.62	-	-	2,896	6.49	-	-	7,213	5.08	-	-	-	-
Size of establishment:														
5-249 workers	11,513	6.00	-	-	6,012	6.26	1,673	7.05	-	-	-	-	642	4.52
250 workers or more	35,203	6.39	3,314	$6.68	14,088	6.73	2,919	6.77	8,767	$5.47	-	-	4,000	7.00
Type of establishment: [6]														
Regular shops	38,999	6.29	3,766	6.69	13,821	6.71	3,947	6.74	9,891	5.41	-	-	4,524	6.73
Regular shops with—														
Cutting and sewing operations	30,035	6.27	3,024	6.70	9,335	6.63	3,415	6.79	7,176	5.36	-	-	4,190	6.82
Sewing operations only	8,080	6.40	-	-	4,486	6.87	-	-	1,907	5.45	-	-	-	-
Cutting shops	1,199	7.61	-	-	559	7.57	-	-	-	-	-	-	-	-
Contract shops	6,518	6.10	-	-	5,720	6.21	-	-	-	-	-	-	-	-
Major product:														
Men's suits	23,006	6.45	1,780	6.58	9,241	6.78	3,556	6.97	4,348	5.63	-	-	-	-
Men's separate tailored jackets	15,835	6.56	-	-	9,072	6.57	695	6.66	2,393	5.52	-	-	-	-
Uniforms (nonathletic)	4,008	5.30	-	-	1,578	5.77	-	-	-	-	-	-	642	4.52
Labor-management contract coverage:														
Establishments with—														
Majority of workers covered	36,547	6.64	4,167	6.72	19,824	6.60	4,431	6.96	-	-	-	-	3,976	6.89
None or minority of workers covered	10,169	5.03	-	-	276	5.74	-	-	8,163	5.11	677	$3.93	-	-

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[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] For definition of regions, see footnote 1, table A-1, appendix A.

[3] Includes data for regions in addition to those shown separately.

[4] Includes data for workers not classified by sex; also includes data for workers in types of establishments and by major products in addition to those shown separately.

[5] Metropolitan Statistical Areas as defined by the U.S. Office of Management and Budget through June 1983.

[6] For definition of types of establishments, see appendix A.

NOTE: Dashes indicate that no data were reported or that data do not meet publication criteria.

SOURCE: Bureau of Labor Statistics, *Industry Wage Survey: Men's and Boys' Suits and Coats, June 1984*, Bulletin 2230, 1985.

Figure 2.2

Table 4. Occupational averages: All establishments

(Number of workers and average straight-time hourly earnings[1] in selected occupations in men's and boys' suits and coat manufacturing establishments, United States and selected regions,[2] June 1984)

Occupation	United States[3]						New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes	
	Total[4]		Men		Women													
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Cutting																		
Cutters, cloth	742	$9.02	563	$9.46	151	$7.50	49	$9.71	355	$10.67	136	$8.17	100	$6.55	22	$5.52	-	-
Cutters, lining	227	8.77	193	8.88	34	8.14	22	8.35	99	9.87	10	7.94	25	6.64	-	-	57	$8.71
Cutters and markers, cloth	454	9.40	343	9.65	-	-	-	-	223	10.28	86	9.62	-	-	13	6.57	-	-
Markers	213	7.32	116	8.30	90	6.03	-	-	67	9.73	34	7.45	45	6.31	-	-	-	-
Spreaders	328	6.56	224	6.19	-	-	40	7.36	78	7.17	-	-	110	5.38	15	3.96	16	5.87
Coat fabrication																		
Basters, hand	278	6.71	49	7.17	226	6.60	-	-	180	6.80	-	-	-	-	-	-	-	-
Button sewers, hand	69	6.50	-	-	66	6.51	-	-	37	6.28	-	-	-	-	-	-	21	6.93
Buttonhole makers, hand	121	6.59	-	-	115	6.55	-	-	58	6.48	7	7.78	-	-	-	-	-	-
Collar setters, hand	112	6.88	39	7.95	70	6.25	-	-	76	7.13	8	6.76	-	-	-	-	-	-
Finishers, hand	790	6.54	-	-	758	6.52	-	-	399	6.35	126	6.87	-	-	-	-	-	-
Fitters	442	7.20	88	8.46	342	6.83	39	6.37	172	7.36	76	7.72	56	6.36	-	-	-	-
Inspectors, final	859	5.62	-	-	758	5.49	50	6.46	413	5.75	83	6.15	185	4.92	27	4.42	62	6.03
Pairers and turners	563	5.91	-	-	497	5.94	64	6.41	294	5.78	31	6.22	92	5.31	-	-	-	-
Pressers, finish, hand	532	7.40	282	8.07	232	6.51	16	8.38	204	7.76	95	6.81	68	6.62	-	-	-	-
Pressers, finish, machine	2,337	7.07	1,223	7.89	1,034	6.05	172	9.31	990	7.65	225	6.32	598	6.06	94	5.40	151	7.58
Sewing-machine operators[5]	19,590	6.17	-	-	18,527	6.09	1,793	6.77	7,810	6.53	1,667	6.71	5,283	5.35	628	4.73	1,660	6.70
Basters	2,026	6.38	-	-	1,902	6.29	93	6.86	826	6.61	285	6.91	449	5.52	-	-	238	6.59
Button sewing	397	6.23	-	-	385	6.19	30	7.78	164	6.37	32	6.23	114	5.37	14	4.82	32	7.60
Buttonhole making	312	6.36	-	-	298	6.27	14	7.34	127	6.68	26	6.83	90	5.81	14	4.10	-	-
Collar preparing, except piecing or padding	362	6.82	-	-	339	6.70	30	7.43	129	6.81	34	7.94	86	6.54	11	4.75	53	6.97
Collar setting	585	6.54	28	8.05	552	6.44	29	7.29	277	6.92	20	7.08	131	5.86	30	4.26	76	6.96
Facing tacking	303	5.93	-	-	286	5.82	12	6.73	106	6.26	25	6.69	126	5.31	-	-	-	-
Fell body lining, bottom and side	592	6.14	-	-	578	6.10	30	7.00	189	6.75	66	6.10	223	5.60	-	-	28	6.19
Join shoulder, cloth	357	6.16	-	-	338	6.06	28	6.83	160	6.40	23	6.58	90	5.79	16	4.35	30	6.22
Join side seams	451	6.12	-	-	428	6.01	48	6.81	171	6.31	32	7.34	108	5.52	-	-	45	5.92
Join undercollar, join sleeve lining, or piece pockets	839	6.24	-	-	802	6.21	70	7.07	392	6.49	79	6.72	204	5.53	20	4.43	-	-
Lining makers, body	723	6.24	-	-	688	6.17	56	7.25	290	6.40	53	6.59	228	5.96	-	-	65	5.99
Pad collar and lapels	101	6.84	8	9.29	92	6.62	8	6.85	65	7.05	9	5.92	-	-	-	-	17	6.69
Pocket setting and tacking	1,341	6.39	-	-	1,226	6.22	109	7.41	555	6.90	116	6.58	338	5.46	45	4.10	-	-
Sew darts, cloth	505	6.02	-	-	503	6.01	25	6.53	180	6.71	45	6.53	202	5.39	18	4.70	-	-
Sew edge tape	425	6.51	-	-	388	6.38	42	7.53	179	6.82	67	6.62	80	5.46	-	-	46	6.13
Sew in sleeves	1,006	6.45	-	-	932	6.29	70	6.73	359	7.16	161	6.36	266	5.66	30	4.81	-	-
Sleeve making, cloth	809	6.28	-	-	776	6.22	64	6.63	402	6.51	41	6.90	117	5.28	-	-	104	6.82
Tape armholes	411	6.20	-	-	394	6.13	24	6.65	191	6.48	50	6.17	86	5.70	20	4.17	25	7.62

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] For definition of regions, see footnote 1, table A-1, appendix A.

[3] Includes data for regions in addition to those shown separately.

[4] Includes data for workers not classified by sex.

[5] Includes data for workers in classification in addition to those shown separately.

NOTE: Dashes indicate that no data were reported or that data do not meet publication criteria.

SOURCE: Bureau of Labor Statistics, *Industry Wage Survey: Men's and Boys' Suits and Coats, June 1984*, Bulletin 2230, 1985.

Figure 2.3

Table 14. Occupational earnings: New York, N.Y.[1]—All establishments

(Percent distribution of workers by straight-time hourly earnings[2] in selected occupations in men's and boys' suit and coat manufacturing establishments, June 1984)

Occupation, sex, and method of wage payment	Number of workers	Average (mean) earnings	Percent of workers receiving straight-time hourly earnings (in dollars) of—																										
			3.35 and under 3.50	3.50 - 3.75	3.75 - 4.00	4.00 - 4.25	4.25 - 4.50	4.50 - 4.75	4.75 - 5.00	5.00 - 5.25	5.25 - 5.50	5.50 - 5.75	5.75 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 - 13.50	13.50 and over
All production workers	2,724	$7.18	2	1	2	2	2	3	2	4	4	4	4	11	9	8	8	8	5	6	3	3	2	1	1	1	(3)	1	1
Men	1,198	8.07	1	1	1	2	1	2	1	2	2	3	3	8	8	8	8	10	6	9	6	6	3	2	2	1	1	2	3
Women	1,526	6.48	3	2	3	3	3	4	2	6	6	5	4	13	10	9	9	6	4	3	2	1	1	1	(3)	(3)	(3)	(3)	(3)
Cutting																													
Cutters, cloth	73	10.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	27	18	4	4	8	-	3	4	8
Cutters and markers, cloth	70	11.67	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	7	41	9	-	-	4	3	-	-	19	13
Markers	13	8.93	-	-	-	-	-	15	8	-	-	-	-	8	-	-	-	-	-	-	15	-	46	8	-	-	-	-	-
Men	11	9.72	-	-	-	-	-	-	9	-	-	-	-	9	-	-	-	-	-	-	18	-	55	9	-	-	-	-	-
Coat fabrication																													
Basters, hand	56	7.01	-	5	-	2	2	2	-	-	-	5	16	14	4	16	4	5	7	11	-	7	-	-	-	-	-	-	-
Men	30	7.82	-	-	-	3	-	-	-	-	-	-	17	10	7	7	3	10	10	20	-	13	-	-	-	-	-	-	-
Timeworkers	10	7.18	-	-	-	10	-	-	-	-	-	-	10	20	20	-	10	-	-	30	-	-	-	-	-	-	-	-	-
Incentive workers	20	8.15	-	-	-	-	-	-	-	-	-	-	20	5	-	10	-	15	15	15	-	20	-	-	-	-	-	-	-
Women	26	6.06	-	12	-	-	4	4	-	-	-	12	15	19	-	27	4	-	4	-	-	-	-	-	-	-	-	-	-
Incentive workers	22	5.97	-	14	-	-	-	5	-	-	-	14	18	23	-	18	5	-	5	-	-	-	-	-	-	-	-	-	-
Button sewers, hand	22	5.85	-	-	5	-	5	32	5	5	5	-	-	5	5	18	14	-	-	5	-	-	-	-	-	-	-	-	-
Buttonhole makers, hand	36	6.41	3	3	3	-	-	-	3	14	3	8	-	6	3	36	14	6	-	-	-	-	-	-	-	-	-	-	-
Women	34	6.35	3	3	3	-	-	-	3	15	3	9	-	6	-	38	15	3	-	-	-	-	-	-	-	-	-	-	-
Incentive workers	29	6.36	3	3	3	-	-	-	-	17	-	10	-	7	-	34	17	3	-	-	-	-	-	-	-	-	-	-	-
Collar setters, hand	40	7.67	5	-	-	-	-	2	-	10	5	5	-	7	7	-	7	13	7	-	20	5	-	-	-	-	2	-	2
Men	24	8.72	-	-	-	-	-	-	-	8	-	4	-	4	4	-	4	17	13	-	29	8	-	-	-	-	4	-	4
Incentive workers	16	9.22	-	-	-	-	-	-	-	6	-	-	-	6	6	-	6	6	-	-	44	13	-	-	-	-	6	-	6
Women	16	6.10	13	-	-	-	-	6	-	13	13	6	-	13	13	-	13	6	-	-	6	-	-	-	-	-	-	-	-
Incentive workers	15	6.20	13	-	-	-	-	-	-	13	13	7	-	13	13	-	13	7	-	-	7	-	-	-	-	-	-	-	-
Finishers, hand	154	6.43	-	1	1	5	3	5	2	6	8	6	6	13	16	13	5	4	1	1	6	-	-	-	1	-	-	-	-
Fitters	33	7.66	-	6	-	-	-	3	-	-	-	12	-	9	15	15	9	3	9	3	6	-	3	-	-	-	-	-	6
Men	28	8.09	-	-	-	-	-	-	-	-	-	14	-	11	18	11	11	4	11	4	7	-	4	-	-	-	-	-	7
Timeworkers	19	7.31	-	-	-	-	-	-	-	-	-	21	-	16	26	-	5	-	16	5	5	-	5	-	-	-	-	-	-
Incentive workers	9	9.73	-	-	-	-	-	-	-	-	-	-	-	-	-	33	22	11	-	-	11	-	-	-	-	-	-	-	22
Inspectors, final	73	5.73	1	1	18	1	10	-	-	7	10	4	5	7	8	11	5	10	-	1	-	-	-	-	-	-	-	-	-
Men	24	6.59	-	-	-	-	4	-	-	4	4	13	13	4	17	17	17	4	-	4	-	-	-	-	-	-	-	-	-
Timeworkers	18	6.61	-	-	-	-	-	-	-	6	6	17	17	-	17	11	22	-	-	6	-	-	-	-	-	-	-	-	-
Incentive workers	6	6.54	-	-	-	-	17	-	-	-	-	-	-	17	17	33	-	17	-	-	-	-	-	-	-	-	-	-	-
Women	49	5.30	2	2	27	2	12	-	-	8	12	-	2	8	4	8	-	12	-	-	-	-	-	-	-	-	-	-	-
Timeworkers	23	4.97	4	4	-	4	26	-	-	17	26	-	4	4	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incentive workers	26	5.59	-	-	50	-	-	-	-	-	-	-	-	12	-	15	-	23	-	-	-	-	-	-	-	-	-	-	-
Pairers and turners	51	4.76	24	6	12	8	10	-	-	10	4	-	2	10	6	4	4	2	-	-	-	-	-	-	-	-	-	-	-
Men	12	5.78	-	-	-	25	8	-	-	-	-	-	8	33	-	17	-	8	-	-	-	-	-	-	-	-	-	-	-
Timeworkers	8	5.89	-	-	-	38	-	-	-	-	-	-	13	13	-	25	-	13	-	-	-	-	-	-	-	-	-	-	-
Pressers, finish, hand	44	7.62	9	-	-	-	-	9	2	-	-	-	-	9	-	11	9	7	16	7	2	14	2	2	-	-	-	-	-
Men	35	7.54	11	-	-	-	-	11	3	-	-	-	-	11	-	6	3	9	11	9	3	17	3	3	-	-	-	-	-
Pressers, finish, machine	142	7.84	1	-	-	2	1	2	1	4	1	1	5	11	11	11	5	15	6	5	2	5	4	-	1	2	-	1	4
Men	128	8.03	-	-	-	-	-	2	2	3	2	1	5	11	11	11	5	17	5	5	2	4	5	-	1	2	-	1	5
Incentive workers	105	8.42	-	-	-	-	-	1	2	3	-	1	5	4	12	10	6	21	6	7	2	5	6	-	1	3	-	1	6

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[1] The New York metropolitan area consists of New York City (Bronx, Kings, New York, Queens, and Richmond Counties) and Putnam, Rockland, and Westchester Counties.

[2] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[3] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Overall occupation may include data for subcategories not shown separately. Dashes indicate no data.

SOURCE: Bureau of Labor Statistics, *Industry Wage Survey: Men's and Boys' Suits and Coats, June 1984*, Bulletin 2230, 1985.

Figure 2.4

Table 4. Percent of production workers in men's and boys' suit and coat manufacturing establishments having formal provisions for selected employee benefits, United States and selected regions,[1] June 1984

Benefit	United States[2]	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes
All workers	100	100	100	100	100	100	100
Paid holidays							
Workers in establishments providing paid holidays	100	100	100	100	100	100	100
4 days	(3)	-	-	-	2	-	-
5 days	5	-	-	-	24	8	-
5 days plus 2 half days	(3)	-	-	-	-	13	-
6 days	3	-	(3)	2	8	25	2
7 days	4	-	-	2	16	-	6
8 days	6	-	(3)	-	29	-	-
9 days	2	-	1	-	3	-	11
10 days	73	99	91	83	17	54	80
11 days	5	-	8	14	-	-	-
12 days	(3)	1	-	-	-	-	-
Paid vacations[4]							
Workers in establishments providing paid vacations	100	100	100	100	100	100	100
Length-of-time payment	88	99	100	97	48	81	98
Percentage payment	12	1	(3)	3	52	19	2
Amount of vacation pay							
After 1 year of service:							
1 week	15	-	-	10	56	38	2
Over 1 and under 2 weeks	2	-	-	3	9	-	-
2 weeks	5	-	1	2	17	8	6
Over 2 and under 3 weeks	1	-	-	-	-	-	11
3 weeks	76	100	99	85	17	54	80
After 2 years of service:							
1 week	5	-	-	2	15	19	-
Over 1 and under 2 weeks	1	-	-	3	3	-	2
2 weeks	15	-	(3)	2	62	27	6
3 weeks	79	100	99	93	20	54	92
After 3 years of service:							
1 week	3	-	-	2	12	19	-
Over 1 and under 2 weeks	1	-	-	3	3	-	2
2 weeks	16	-	(3)	2	65	27	6
3 weeks	79	100	99	93	20	54	92
After 5 years of service:							
1 week	1	-	-	-	2	19	-
Over 1 and under 2 weeks	(3)	-	-	3	-	-	-
2 weeks	16	-	(3)	4	65	27	2
Over 2 and under 3 weeks	1	-	-	-	5	-	-
3 weeks	82	100	99	93	28	54	98
Amount of vacation pay—Continued							
After 10 years of service:							
1 week	1	-	-	-	2	19	-
Over 1 and under 2 weeks	(3)	-	-	3	-	-	-
2 weeks	12	-	(3)	4	49	21	2
Over 2 and under 3 weeks	1	-	-	-	5	-	-
3 weeks	84	100	99	93	36	60	98
4 weeks	2	-	-	-	8	-	-
After 20 years of service:[5]							
1 week	1	-	-	-	2	19	-
Over 1 and under 2 weeks	(3)	-	-	3	-	-	-
2 weeks	12	-	(3)	4	49	21	2
Over 2 and under 3 weeks	1	-	-	-	5	-	-
3 weeks	10	1	3	-	24	54	6
4 weeks	76	99	97	93	20	6	92
Health, insurance and retirement plans[6]							
Life insurance	97	100	99	100	88	100	100
Noncontributory plans	93	100	97	100	78	55	100
Accidental death and dismemberment insurance	29	1	6	14	65	38	100
Noncontributory plans	26	1	6	14	55	(3)	100
Sickness and accident insurance or sick leave or both[7]	84	100	99	96	36	68	98
Sickness and accident insurance	82	100	99	96	29	62	98
Noncontributory plans	79	100	98	96	17	54	98
Sick leave (full pay, no waiting period)	1	-	1	-	-	6	-
Sick leave (partial pay or waiting period)	6	-	11	-	7	-	-
Long-term disability insurance	1	-	3	-	-	-	-
Noncontributory plans	1	-	3	-	-	-	-
Hospitalization insurance	96	100	99	100	88	100	92
Noncontributory plans	88	100	98	98	59	55	92
Surgical insurance	96	100	99	100	88	100	92
Noncontributory plans	88	100	98	98	59	55	92
Medical insurance	96	100	99	100	85	100	92
Noncontributory plans	88	100	98	98	59	55	92
Major medical insurance	36	1	24	29	71	46	43
Noncontributory plans	27	1	22	27	42	(3)	43
Dental insurance	8	-	4	-	-	-	60
Noncontributory plans	8	-	4	-	-	-	60
Retirement plans[8]	94	100	99	100	82	54	100
Pensions	94	100	99	96	82	54	100
Noncontributory plans	91	100	99	96	70	54	100
Severance pay	4	-	-	4	16	-	-

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[1] For definitions of regions see footnote 2, table 1.

[2] Includes data for regions in addition to those shown separately.

[3] Less than 0.5 percent.

[4] Vacation payments, such as percent of annual earnings, were converted to an equivalent time basis. Periods of service were chosen arbitrarily and do not necessarily reflect individual establishment provisions for progression. For example, changes indicated at 10 years may include changes that occurred between 5 and 10 years.

[5] Vacation provisions were virtually the same after longer periods of service.

[6] Includes those plans for which the employer pays at least part of the cost and excludes legally required plans such as workers' compensation and Social Security; however, plans required by State temporary disability insurance laws are included if the employer contributes more than is legally required or employees receive benefits over legal requirements. "Noncontributory plans" include only those plans financed entirely by the employer.

[7] Unduplicated total of workers receiving sickness and accident insurance and sick leave shown separately.

[8] Unduplicated total of workers covered by pension plans and severance pay shown separately.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

SOURCE: Bureau of Labor Statistics, *Occupational Earnings and Benefits, Men's and Boys' Suit and Coat Manufacturing, June 1984*, Summary 84-11, 1984.

Figure 2.5

Table A-1. Weekly earnings of office workers in New York, N.Y.-N.J., May 1984

Occupation and industry division	Number of workers	Average weekly hours[1] (standard)	Weekly earnings (in dollars)[1]			Number of workers receiving straight-time weekly earnings (in dollars) of —																				
			Mean[2]	Median[2]	Middle range[2]	120 and under 140	140 - 160	160 - 180	180 - 200	200 - 220	220 - 240	240 - 260	260 - 280	280 - 300	300 - 320	320 - 340	340 - 360	360 - 380	380 - 400	400 - 420	420 - 440	440 - 460	460 - 480	480 - 500	500 - 520	520 and over
Secretaries	40,198	36.0	362.50	351.50	307.50- 409.50	-	22	13	252	494	1024	1582	1909	2904	4277	4886	4372	3774	3274	2496	2248	1711	1597	923	698	1739
Manufacturing	10,119	36.5	372.00	358.00	318.00- 418.00	-	22	-	34	90	157	220	418	635	1054	1349	1122	998	797	713	528	449	402	354	266	511
Nonmanufacturing	30,079	36.0	359.00	350.00	307.00- 405.00	-	-	13	218	404	867	1362	1491	2269	3223	3537	3250	2776	2477	1785	1720	1262	1195	569	433	1228
Secretaries I	7,156	35.0	298.50	299.50	259.00- 329.00	-	-	8	34	289	681	863	703	1036	1170	956	752	269	193	100	15	21	19	3	14	-
Manufacturing	462	36.0	281.00	269.00	240.00- 304.00	-	-	-	8	61	46	72	76	76	37	34	16	6	-	-	7	6	-	3	14	-
Nonmanufacturing	6,694	35.0	300.00	301.50	259.50- 330.00	-	-	8	26	228	635	791	627	960	1133	932	736	263	193	100	8	15	19	-	-	-
Secretaries II	9,556	36.0	326.50	327.00	297.00- 357.50	-	22	-	183	173	195	507	676	885	1558	1664	1371	909	562	251	385	96	84	44	3	8
Manufacturing	2,174	37.0	315.00	317.50	291.00- 334.50	-	22	-	-	-	31	92	224	289	491	576	251	92	34	39	29	3	-	-	-	1
Nonmanufacturing	7,382	36.0	330.00	332.50	298.50- 365.00	-	-	-	183	173	164	415	452	576	1067	1088	1120	817	528	212	356	93	84	44	3	7
Secretaries III	9,331	36.5	377.00	371.00	326.50- 419.00	-	-	1	9	4	32	120	347	556	879	1033	1067	1134	981	854	572	436	692	185	176	253
Manufacturing	2,971	36.5	370.50	367.00	337.00- 398.00	-	-	-	-	1	10	21	45	115	268	327	462	581	455	302	140	94	36	34	13	67
Nonmanufacturing	6,360	36.0	380.00	374.50	324.00- 432.00	-	-	1	9	3	22	99	302	441	611	706	605	553	526	552	432	342	656	151	163	186
Transportation and utilities	1,991	36.0	421.50	421.00	384.00- 470.50	-	-	-	-	-	-	-	4	19	78	61	128	172	248	281	215	157	380	23	102	123
Secretaries IV	10,339	36.0	396.50	388.00	345.50- 441.50	-	-	-	22	-	75	85	141	414	554	1034	981	1044	1351	997	955	811	557	457	228	635
Manufacturing	2,951	36.0	394.50	391.00	335.00- 456.00	-	-	-	22	-	44	31	48	136	219	329	292	227	211	201	231	262	248	213	129	108
Nonmanufacturing	7,388	36.0	397.00	388.00	352.50- 433.00	-	-	-	-	-	31	54	93	278	335	705	689	817	1140	796	724	549	309	244	97	527
Transportation and utilities	930	37.0	463.00	471.00	407.00- 534.00	-	-	-	-	-	2	6	14	15	38	4	6	17	90	103	77	54	59	67	45	• 331
Secretaries V	3,449	36.0	454.50	453.00	386.00- 518.50	-	-	4	4	28	39	4	14	21	64	124	148	359	153	265	295	332	241	231	280	• • 843
Manufacturing	1,377	36.5	451.00	452.50	392.00- 517.00	-	-	-	4	28	24	2	1	13	15	47	73	82	83	153	113	74	118	104	110	335
Nonmanufacturing	2,072	36.0	456.50	455.00	379.00- 518.50	-	-	4	-	-	15	2	13	8	49	77	75	277	70	112	182	258	125	127	170	508
Transportation and utilities	282	37.0	513.00	517.00	447.00- 578.50	-	-	-	-	-	-	-	1	-	1	2	-	6	2	3	52	16	28	3	28	140
Stenographers	1,161	36.5	293.00	268.50	241.50- 340.50	-	-	1	64	23	188	178	204	60	63	78	52	40	62	80	34	19	-	3	1	2
Nonmanufacturing	1,064	36.5	291.50	265.50	237.50- 340.50	-	-	1	64	23	168	178	180	59	51	62	50	38	58	80	34	18	-	-	-	-
Transportation and utilities	178	39.0	368.00	398.50	296.00- 419.00	-	-	-	-	3	7	7	25	5	1	2	-	14	25	68	11	10	-	-	-	-
Stenographers I	434	37.0	264.50	243.50	226.00- 275.50	-	-	1	47	21	130	95	34	17	15	18	2	2	28	15	2	1	-	3	1	2
Nonmanufacturing	379	37.0	253.00	237.50	224.50- 258.50	-	-	1	47	21	130	95	32	7	3	2	-	-	24	15	2	-	-	-	-	-
Transportation and utilities	73	38.5	337.50	384.50	265.00- 389.00	-	-	-	-	3	7	7	7	5	1	2	-	-	24	15	2	-	-	-	-	-
Stenographers II	727	36.5	310.00	297.00	261.50- 361.00	-	-	-	17	2	56	83	170	52	48	60	50	38	34	65	32	18	-	-	-	-
Nonmanufacturing	686	36.5	313.00	300.00	261.50- 365.00	-	-	-	17	2	56	83	128	52	48	60	50	38	34	65	32	18	-	-	-	-
Transcribing-machine typists	302	36.0	282.50	268.50	230.50- 289.50	-	-	-	2	11	86	37	26	81	4	4	4	27	2	-	4	4	2	2	2	4
Nonmanufacturing	247	36.0	291.00	281.00	232.00- 289.50	-	-	-	2	11	62	14	22	81	2	2	4	27	2	-	4	4	2	2	2	4
Typists	6,146	36.0	230.00	223.00	190.00- 257.50	-	257	772	998	798	1125	720	693	301	168	93	37	12	18	32	9	99	9	3	2	-
Manufacturing	702	37.0	256.00	242.00	220.00- 274.00	-	-	5	54	56	202	160	75	31	40	29	9	5	8	2	3	9	9	3	2	-
Nonmanufacturing	5,444	36.0	226.50	220.00	190.00- 256.50	-	257	767	944	742	923	560	618	270	128	64	28	7	10	30	6	90	-	-	-	-
Transportation and utilities	369	38.5	304.00	265.00	231.50- 404.50	-	-	6	25	19	82	45	20	25	13	4	11	7	7	30	5	70	-	-	-	-
Typists I	4,171	36.0	214.50	210.50	184.00- 235.00	-	256	718	787	621	831	400	301	85	56	50	29	5	9	3	1	9	9	-	1	-
Manufacturing	524	37.0	244.50	230.00	220.00- 252.00	-	-	5	54	54	195	106	40	9	23	16	1	-	1	-	1	9	9	-	1	-
Nonmanufacturing	3,647	36.0	210.50	206.00	177.00- 231.00	-	256	713	733	567	636	294	261	76	33	34	28	5	8	3	-	-	-	-	-	-
Typists II	1,975	36.0	262.50	256.50	224.50- 284.00	-	1	54	211	177	294	320	392	216	112	43	8	7	9	29	8	90	-	3	1	-
Manufacturing	178	36.0	291.00	274.00	248.50- 310.00	-	-	-	-	2	7	54	35	22	17	13	8	5	7	2	2	-	-	3	1	-
Nonmanufacturing	1,797	36.0	259.50	253.00	222.50- 279.50	-	1	54	211	175	287	266	357	194	95	30	-	2	2	27	6	90	-	-	-	-
Transportation and utilities	162	38.5	362.00	404.50	250.00- 440.00	-	-	-	-	-	36	18	-	3	-	-	-	2	1	27	5	70	-	-	-	-
File clerks	3,052	36.5	202.50	193.00	170.00- 223.50	96	341	615	708	402	455	142	115	37	43	16	5	9	29	10	16	9	3	-	-	1
Manufacturing	458	37.0	218.00	192.50	170.00- 224.50	-	32	145	95	52	40	13	8	16	5	9	5	2	10	5	8	9	3	-	-	1
Nonmanufacturing	2,594	36.0	199.50	193.50	166.50- 222.50	96	309	470	613	350	415	129	107	21	38	7	-	7	19	5	8	-	-	-	-	-
Transportation and utilities	81	37.5	289.00	231.00	180.00- 384.50	-	5	-	18	-	19	1	-	1	3	-	-	2	19	5	8	-	-	-	-	-

[1] Standard hours reflect the workweek for which employees receive their regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates), and the earnings correspond to these weekly hours.

[2] The mean is computed for each job by totaling the earnings of all workers and dividing by the number of workers. The median designates position—one-half of the workers receive the same as or more and one-half receive the same as or less than the rate shown. The middle range is defined by two rates of pay; one-fourth of the workers earn the same as or less than the lower of these rates and one-fourth earn the same as or more than the higher rate.

SOURCE: Bureau of Labor Statistics, *Area Wage Survey: New York, New York—New Jersey, Metropolitan Area, May 1984*, Bulletin 3025-30, 1984.

• Workers were distributed as follows: 246 at $520.00 to $560.00; 83 at $560.00 to $600.00; 1 at $600.00 to $640.00; and 1 at $680.00 to $720.00.

• • Workers were distributed as follows: 370 at $520.00 to $560.00; 283 at $560.00 to $600.00; 165 at $600.00 to $640.00; 16 at $640.00 to $680.00; 5 at $680.00 to $720.00; 2 at $720.00 to $760.00; and 2 at $760.00 and over.

Figure 2.6

Table A-7. Indexes of earnings and percent increases for selected occupational groups, New York, N.Y.-N.J., selected periods

Period[1]	All industries					Manufacturing					Nonmanufacturing			
	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Skilled maintenance	Unskilled plant	Office clerical	Electronic data processing	Industrial nurses	Unskilled plant
Indexes (May 1977 = 100):														
May 1983	154.4	153.8	159.8	160.2	153.6	156.4	157.5	160.6	161.4	158.0	153.4	153.3	159.8	153.3
May 1984	163.8	163.5	170.0	170.3	161.9	166.6	168.1	168.3	171.6	166.7	162.6	162.8	171.8	161.4
Percent increases:														
May 1975 to May 1976	6.3	6.8	6.7	7.9	10.6	7.3	6.4	8.2	7.8	7.2	6.0	6.9	5.4	11.0
May 1976 to May 1977	5.8	5.8	6.8	6.4	7.3	7.1	6.6	6.4	7.0	7.3	5.4	5.6	7.1	7.3
May 1977 to May 1978	5.8	5.3	6.6	7.1	5.8	6.4	6.3	6.7	5.3	5.8	5.5	5.1	6.5	5.8
May 1978 to May 1979	6.1	5.5	6.4	7.9	7.0	6.7	6.0	5.8	7.9	7.7	5.8	5.4	7.0	7.0
May 1979 to May 1980	7.5	8.7	10.6	9.0	5.5	8.0	9.4	12.2	10.1	8.3	7.4	8.6	9.2	5.2
May 1980 to May 1981	9.5	10.3	8.0	8.5	9.0	9.0	9.0	7.9	8.8	9.2	9.7	10.6	8.2	9.0
May 1981 to May 1982	9.2	7.4	9.6	8.9	8.9	9.4	8.9	9.5	9.8	9.6	9.1	7.1	9.7	8.8
May 1982 to May 1983	6.9	7.5	7.7	7.6	8.4	7.0	7.6	7.3	8.0	7.0	6.9	7.5	8.1	8.6
May 1983 to May 1984	6.1	6.3	6.4	6.3	5.4	6.5	6.7	4.8	6.3	5.5	6.0	6.2	7.5	5.3

[1] Estimates for periods ending prior to 1976 relate to men only for skilled maintenance and unskilled plant workers. All other estimates relate to men and women.

SOURCE: Bureau of Labor Statistics, *Area Wage Survey: New York, New York—New Jersey, Metropolitan Area, May 1984*, Bulletin 3025-30, 1984.

Figure 2.7

• Table A-8. Pay relationships in establishments with paired office clerical occupations, New York, N.Y.-N.J., May 1984

Occupation for which earnings are compared	Occupation for which average earnings equal 100																									
	Secretaries					Stenographers		Transcribing machine typists	Typists		File clerks			Messengers	Switchboard operators	Switchboard operator -receptionists	Order clerks	Accounting clerks				Payroll clerks	Key entry operators	
	I	II	III	IV	V	I	II		I	II	I	II	III				I	I	II	III	IV		I	II
Secretaries I	**100**	86	77	68	62	(*)	91	109	135	121	150	147	102	145	116	110	142	114	106	93	76	103	108	105
Secretaries II	117	**100**	84	75	69	126	(*)	104	137	123	160	144	115	152	110	117	131	129	117	101	85	104	115	97
Secretaries III	130	119	**100**	81	73	109	80	120	150	124	171	147	118	163	124	135	125	141	129	110	93	107	123	110
Secretaries IV	148	134	124	**100**	84	160	129	147	173	140	192	177	136	188	147	136	167	162	146	123	119	126	141	132
Secretaries V	160	145	137	120	**100**	192	160	168	199	176	227	206	168	227	177	170	(*)	189	169	139	125	139	171	156
Stenographers I	(*)	79	92	62	52	**100**	86	(*)	112	89	127	115	89	118	94	(*)	(*)	104	92	78	60	80	90	82
Stenographers II	110	(*)	125	78	62	116	**100**	(*)	(*)	(*)	(*)	121	109	135	109	(*)	(*)	(*)	118	88	69	(*)	115	89
Transcribing-machine typists	91	96	84	68	60	(*)	(*)	**100**	124	116	149	133	142	140	101	(*)	(*)	(*)	104	105	(*)	89	122	121
Typists I	74	73	67	58	50	89	(*)	81	**100**	78	115	97	76	99	81	94	87	88	81	74	60	72	80	68
Typists II	82	82	81	71	57	113	(*)	86	129	**100**	140	124	96	126	101	95	99	(*)	102	81	74	90	99	91
File clerks I	67	62	59	52	44	79	(*)	67	87	72	**100**	87	70	104	80	75	84	81	76	66	51	69	82	70
File clerks II	68	69	68	57	49	87	83	75	103	81	115	**100**	82	103	84	67	(*)	93	84	70	63	69	86	73
File clerks III	98	87	84	73	60	113	92	70	132	104	142	122	**100**	131	115	(*)	(*)	122	103	87	79	86	122	99
Messengers	69	66	61	53	44	85	74	72	101	80	96	98	76	**100**	78	74	108	91	78	65	57	67	76	66
Switchboard operators	87	91	81	68	56	106	92	99	123	99	124	120	87	128	**100**	(*)	(*)	110	98	85	95	87	98	90
Switchboard operator-receptionists	91	86	74	73	59	(*)	(*)	(*)	106	105	134	149	(*)	135	(*)	**100**	104	119	97	90	69	82	106	91
Order clerks I	70	76	80	60	(*)	(*)	(*)	(*)	115	101	119	(*)	(*)	93	(*)	96	**100**	103	98	82	103	93	102	98
Accounting clerks I	87	78	71	62	53	96	(*)	(*)	113	(*)	124	107	82	110	91	84	97	**100**	86	74	(*)	77	84	72
Accounting clerks II	94	86	77	68	59	109	85	97	123	98	131	118	97	129	102	103	102	117	**100**	81	72	87	102	88
Accounting clerks III	108	99	91	81	72	128	113	95	136	123	151	142	115	154	117	111	122	135	123	**100**	82	101	114	101
Accounting clerks IV	131	118	107	84	80	167	145	(*)	165	136	195	160	127	175	105	145	97	(*)	139	122	**100**	113	126	102
Payroll clerks	97	96	94	79	72	125	(*)	112	140	111	145	145	116	149	115	122	107	129	115	99	88	**100**	107	96
Key entry operators I	92	87	81	71	59	111	87	82	126	101	123	117	82	132	102	94	98	118	98	88	79	94	**100**	80
Key entry operators II	95	103	91	76	64	121	113	83	148	110	142	138	101	151	111	110	102	138	114	99	98	104	125	**100**

[*] Data do not meet publication criteria or data not available.

NOTE: This matrix table shows the average (mean) relationship of earnings in establishments between any two occupations compared. Earnings for an occupation in the table stub are expressed as a percent of the earnings for an occupation in the column heading at the point where the data lines for the two intersect. For example, reading across the Secretaries II row, the 117 in the Secretaries I column indicates that Secretaries II average 117 percent of (or 17 percent more than) the earnings of Secretaries I.

SOURCE: Bureau of Labor Statistics, *Area Wage Survey: New York, New York—New Jersey, Metropolitan Area, May 1984*, Bulletin 3025-30, 1984.

Figure 2.8

Table A-13. Interarea pay comparisons for selected occupational groups, January through December 1984

(262-area average pay levels for each industry and occupational group = 100)

Metropolitan area	Office clerical			Electronic data processing			Skilled maintenance		Unskilled plant		
	All industries	Manufacturing industries	Non-manufacturing industries	All industries	Manufacturing industries	Non-manufacturing industries	All industries	Manufacturing industries	All industries	Manufacturing industries	Non-manufacturing industries
All metropolitan areas	100	100	100	100	100	100	100	100	100	100	100
Northeast											
Albany-Schenectady-Troy	98	98	94	97	-	-	89	89	111	103	100
Boston	96	94	96	96	93	98	94	93	97	88	102
Buffalo	89	92	85	89	-	-	102	104	97	102	96
Hartford	89	92	88	95	-	-	88	89	85	96	-
Nassau-Suffolk	93	91	94	98	93	102	94	92	98	82	-
Newark	105	104	105	104	99	107	96	95	88	101	84
New York	102	98	104	103	104	104	99	102	128	87	141
Northeast Pennsylvania	83	83	79	87	-	89	80	77	95	82	95
Paterson-Clifton-Passaic	93	91	-	98	96	-	89	88	96	87	-
Philadelphia	96	98	95	95	90	98	96	94	111	107	104
Pittsburgh	102	106	99	97	-	95	98	98	104	113	94
Portland	85	-	87	88	-	-	-	-	95	85	-
Poughkeepsie	-	-	-	-	-	-	-	-	-	-	-
Providence-Warwick-Pawtucket	87	87	-	86	-	89	78	79	81	73	79
Trenton	96	95	-	93	-	-	92	93	-	87	-
Worcester	93	-	94	95	-	95	85	85	88	79	-
York	92	92	-	86	-	-	89	86	110	85	111
South											
Atlanta	102	100	104	103	-	106	95	92	80	88	81
Baltimore	98	100	98	95	-	98	100	102	82	98	81
Chattanooga	93	91	90	-	-	-	81	80	78	80	-
Corpus Christi	89	-	88	-	-	-	101	99	68	-	-
Dallas-Fort Worth	100	97	102	101	97	104	98	97	86	91	84
Daytona Beach	-	-	-	-	-	-	-	-	-	-	-
Gainesville	-	-	-	-	-	-	-	-	-	-	-
Greensboro-Winston-Salem-High Point	95	94	93	95	91	98	94	93	80	81	74
Greenville-Spartanburg	85	81	87	92	-	-	75	73	75	67	78
Houston	109	109	111	110	104	113	104	104	72	83	72
Huntsville	92	88	-	-	-	-	91	93	85	87	-
Jackson	90	92	92	-	-	-	88	86	74	80	70
Jacksonville	93	87	96	94	-	97	93	91	74	92	75
Louisville	96	100	92	99	-	-	102	103	101	111	77
Memphis	90	94	91	91	-	93	98	95	73	80	75
Miami	95	89	98	100	-	103	83	80	71	62	74
New Orleans	96	-	98	97	-	101	99	100	68	85	70
Norfolk-Virginia Beach-Portsmouth	84	-	83	-	-	-	88	85	71	74	77
Oklahoma City	98	93	101	94	-	96	96	95	90	111	82

SOURCE: Bureau of Labor Statistics, *Area Wage Surveys: Selected Metropolitan Areas, 1984*, Bulletin 3025-72, 1985.

Figure 2.9

Table 1. Average salaries: United States

(Employment and average salaries for selected professional, administrative, technical, and clerical occupations in private industry,[1] United States, except Alaska and Hawaii, March 1985)

Occupation and level	Number of employees[2]	Monthly salaries[3]				Annual salaries[4]			
		Mean[5]	Median[5]	Middle range[4]		Mean[5]	Median[5]	Middle range[5]	
				First quartile	Third quartile			First quartile	Third quartile
Accountants and auditors									
Accountants I	12,465	$1,715	$1,705	$1,524	$1,875	$20,577	$20,460	$18,293	$22,500
Accountants II	22,874	2,112	2,083	1,875	2,328	25,349	24,990	22,500	27,931
Accountants III	36,599	2,503	2,474	2,205	2,750	30,037	29,688	26,460	33,000
Accountants IV	21,232	3,134	3,105	2,832	3,415	37,607	37,266	33,986	40,983
Accountants V	7,841	3,907	3,873	3,556	4,207	46,879	46,481	42,667	50,480
Accountants VI	1,612	4,960	4,890	4,451	5,350	59,519	58,677	53,414	64,200
Auditors I	1,855	1,761	1,708	1,583	1,934	21,128	20,492	18,992	23,208
Auditors II	3,627	2,155	2,097	1,925	2,375	25,854	25,166	23,100	28,500
Auditors III	5,185	2,604	2,550	2,280	2,840	31,246	30,600	27,360	34,075
Auditors IV	2,345	3,270	3,208	2,916	3,607	39,243	38,496	34,986	43,283
Public accountants I	10,596	1,638	1,624	1,566	1,708	19,657	19,492	18,792	20,492
Public accountants II	9,886	1,844	1,833	1,716	1,964	22,134	21,991	20,592	23,568
Public accountants III	8,221	2,158	2,102	1,950	2,310	25,891	25,224	23,400	27,720
Public accountants IV	3,877	2,618	2,582	2,332	2,791	31,416	30,988	27,989	33,487
Chief accountants I	764	3,130	3,128	2,916	3,499	37,557	37,536	34,986	41,983
Chief accountants II	1,127	3,876	3,957	3,499	4,166	46,517	47,481	41,983	49,996
Chief accountants III	648	5,039	5,072	4,500	5,586	60,466	60,864	54,000	67,026
Chief accountants IV	224	6,228	6,250	5,748	6,700	74,735	75,000	68,972	80,400
Attorneys									
Attorneys I	1,184	2,490	2,417	2,203	2,749	29,886	29,004	26,439	32,987
Attorneys II	3,046	3,105	3,078	2,749	3,410	37,256	36,936	32,987	40,920
Attorneys III	4,556	3,979	3,931	3,570	4,332	47,742	47,172	42,840	51,979
Attorneys IV	3,466	4,924	4,888	4,307	5,415	59,087	58,652	51,679	64,974
Attorneys V	1,823	6,150	6,123	5,434	6,649	73,805	73,471	65,208	79,786
Attorneys VI	481	7,641	7,477	6,856	8,358	91,690	89,722	82,267	100,293
Buyers									
Buyers I	6,373	1,741	1,686	1,520	1,891	20,896	20,232	18,240	22,691
Buyers II	18,061	2,134	2,115	1,898	2,332	25,606	25,374	22,774	27,989
Buyers III	18,224	2,648	2,600	2,356	2,891	31,774	31,198	28,276	34,692
Buyers IV	5,545	3,276	3,206	2,941	3,550	39,306	38,477	35,296	42,600
Programmers and systems analysts									
Computer programmers I	14,201	1,693	1,691	1,499	1,885	20,318	20,292	17,993	22,618
Computer programmers II	34,235	1,974	1,999	1,792	2,158	23,690	23,990	21,498	25,894
Computer programmers III	44,128	2,364	2,343	2,158	2,560	28,367	28,116	25,894	30,723
Computer programmers IV	19,279	2,809	2,817	2,595	3,034	33,708	33,804	31,140	36,408
Computer programmers V	8,517	3,441	3,468	3,248	3,700	41,288	41,618	38,976	44,400
Systems analysts I	20,649	2,350	2,315	2,120	2,525	28,197	27,781	25,440	30,303
Systems analysts II	42,666	2,789	2,758	2,526	3,004	33,465	33,096	30,314	36,048
Systems analysts III	34,202	3,305	3,284	3,002	3,565	39,663	39,413	36,026	42,783
Systems analysts IV	12,785	3,894	3,828	3,505	4,220	46,729	45,942	42,060	50,640
Systems analysts V	2,688	4,705	4,623	4,218	5,170	56,461	55,480	50,616	62,040
Systems analysts VI	179	5,734	5,656	5,265	6,177	68,809	67,872	63,182	74,126

[1] For the scope of the survey, see table A-1 in appendix A.

[2] Occupational definitions appear in appendix C.

[3] Occupational employment estimates relate to the total in all establishments within the scope of the survey and not to the number actually surveyed. For further explanation, see appendix A.

[4] Salaries reported are standard salaries paid for standard work schedules; i.e., the straight-time salary corresponding to the employee's normal work schedule excluding overtime hours. Nonproduction bonuses are excluded, but cost-of-living payments and incentive earnings are included.

[5] The mean is computed for each job by totaling the earnings of all workers and dividing by the number of workers. The median designates position; one-half of the workers receive the same as or more and one-half receive the same as or less than the rate shown. The middle range is defined by two rates of pay; one-fourth of the workers earn the same as or less than the lower of these rates and one-fourth earn earn the same as or more than the higher rate.

Chapter 3. Average Hourly and Weekly Earnings—Establishment Data

Average hourly and weekly earnings statistics are developed from a monthly survey of employment, hours, and earnings in nonagricultural establishments conducted by the Bureau of Labor Statistics in cooperation with State employment security agencies.

This survey, the Current Employment Statistics (CES) survey, collects data each month from a nationwide sample of over 200,000 nonagricultural establishments to provide detailed industry data for the Nation as a whole, individual States, and most major labor areas. Coverage of the earnings data includes production and related workers in manufacturing and mining, construction workers in contract construction, and nonsupervisory workers in the other nonmanufacturing components of the private nonfarm sector. Gross average hourly earnings are derived by dividing the total production or nonsupervisory payroll in reporting establishments by total production or nonsupervisory worker hours. Average weekly earnings are derived by multiplying the average hourly earnings by average weekly hours. These data are available in substantial industry detail over a long time period.

Background

The first monthly studies of employment and payrolls by BLS began in October 1915 and covered four manufacturing industries. By November 1916, the BLS program had been expanded to cover 13 manufacturing industries; this number remained unchanged until 1922. These early series consisted merely of data on over-the-month changes in employment and payrolls; index series using a January 1915 reference date were developed in 1918.

The depression of 1921 directed attention to the importance of current employment statistics, and in 1922 Congress granted additional funds to provide for program expansion. By June 1923, the number of manufacturing industries covered by the monthly employment and payroll survey had increased to 52. In 1928, concern over increasing unemployment induced Congress to provide additional appropriations for the program. During the next 4 years, 53 industries were added—38 manufacturing industries and 15 nonmanufacturing industries.

In 1930, the deepening economic crisis led President Hoover to appoint an Advisory Committee on Employment Statistics to study the need for additional data in this field. The Committee made its report in the spring of 1931 with a number of recommendations for extension of the Bureau's program. The most important of these called for the development of series on average weekly hours and earnings. Congress granted the Bureau a substantial increase in the appropriation for the program for 1932, and in January 1933, average hourly earnings and average weekly hours were published for the first time for manufacturing as a whole, for 90 manufacturing industries, and for 14 nonmanufacturing industries.

Over the years, the feeling grew that the proper place to estimate State and area employment was in the State agencies rather than in Washington. By 1949, all States had joined the system, and since that year the industry employment statistics program has been a fully integrated Federal-State project which provides employment, hours, and earnings information on a national, State, and area basis in considerable industrial detail. This cooperative program has as its formal base of authority a congressional act of July 7, 1930 (ch. #873, 46 Stat. 1019; 29 U.S.C. 2). In 1985, cooperative arrangements were in effect with the State employment security agencies in the 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands.

Survey concepts and outputs

Average earnings data are derived from reports of payrolls and hours for production and related workers in manufacturing and mining, construction workers in construction, and nonsupervisory employees in private service-producing industries. The survey concepts are designed to simplify and speed recording and to mirror predominant employer payroll practices. Definitions of the data requested in the survey are as follows:

> *Production and related workers* in mining and manufacturing include working supervisors and all nonsupervisory workers (including group leaders and trainees) engaged in fabricating, processing, assembling, inspection, receiving, storage handling, packing, warehousing, shipping, maintenance, repair, janitorial and guard services, product development,

auxiliary production for a plant's own use (e.g., power plant), and recordkeeping and other services closely associated with production operations.

Construction workers include the following employees in the contract construction division: Working supervisors, qualified craft workers, mechanics' apprentices, laborers, etc., whether working at the site of construction or in shops or yards, at jobs (such as precutting and preassembling) ordinarily performed by members of the construction trades.

Nonsupervisory employees include employees (not above the working supervisory level) such as office and clerical workers, repairers, salespersons, operators, drivers, physicians, lawyers, accountants, nurses, social workers, research aids, teachers, drafters, photographers, beauticians, musicians, restaurant workers, custodial workers, attendants, line installers and other employees whose services are closely associated with those of the employees listed.

Payroll covers the payroll for full- and part-time production, construction, or nonsupervisory workers who received pay for any part of the pay period which includes the 12th of the month. The payroll is reported before deductions of any kind, e.g., for old-age and unemployment insurance, group insurance, withholding tax, bonds, or union dues; also included is pay for overtime, holidays, vacations, and sick leave paid directly by the firm. Bonuses (unless earned and paid regularly each pay period), other pay not earned in the pay period reported (e.g., retroactive pay), tips, and the value of free rent, fuel, meals, or other payment in kind are excluded. Benefits, such as health and other types of insurance, contributions to retirement, etc., paid by the employer are also excluded.

Hours cover hours paid for, during the pay period which includes the 12th of the month, for production, construction, or nonsupervisory workers. The hours include hours paid for holidays and vacations, and for sick leave when pay is received directly from the firm.

Overtime hours cover hours worked by production and related workers for which overtime premiums were paid because the hours were in excess of the number of hours of either the straight-time workday or the workweek during the pay period which includes the 12th of the month. Weekend and holiday hours are included only if overtime premiums were paid. Hours for which only shift-differential, hazard, incentive, or similar types of premiums were paid are excluded.

Establishments are classified into industries according to the 1972 *Standard Industrial Classification Manual* on the basis of their major activity during the previous year.

Based on this calculation of payroll and hours data, five statistical series are produced, as follows:

Gross average hourly earnings are computed by dividing the reported payroll by the reported hours for establishments in a given estimating cell—usually an industry or subgroup (geographic region and/or size-of-establishment group within an industry). Changes in gross average hourly earnings reflect not only changes in basic hourly and incentive wage rates but also such variable factors as premium pay for overtime and late-shift work and changes in output of workers paid on an incentive plan. Shifts in the volume of employment between relatively high-paid and low-paid work, as well as changes in workers' earnings in individual establishments, also affect the general earnings averages. Averages for groups and divisions further reflect changes in average hourly earnings for individual industries.

Straight-time average hourly earnings excluding overtime premium pay are computed for the manufacturing sector by dividing the total production worker payroll for the industry group by the sum of total production worker hours and one-half of total overtime hours. This method eliminates earnings due to overtime paid for at 1½ times straight-time rates. No adjustment is made for other premium payment provisions, such as holiday work, late-shift work, and overtime rates other than time and one-half.

Gross average weekly earnings are derived by multiplying average weekly hours by average hourly earnings. Therefore, weekly earnings are affected not only by changes in gross average hourly earnings but also by changes in the length of the workweek. Monthly variations in factors such as the proportion of part-time workers, work stoppages, labor turnover, and absences for which employees are not paid may cause the average workweek to fluctuate.

Long-term trends of gross average weekly earnings can be affected by structural changes in the makeup of the work force. For example, the long-term increase in the proportion of part-time workers in retail trade and many of the service industries has reduced the average workweek in these industries and has affected the average weekly earnings series.

Average hourly and weekly earnings in constant dollars are derived by dividing the earnings averages by the Consumer Price Index. This eliminates the effects of changes in purchasing power. The deflator used in adjusting all of the hourly and weekly earnings averages is the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

Seasonally adjusted series are developed to observe the cyclical and other nonseasonal movements in the series. Seasonal factors are computed and then applied to gross average hourly earnings to eliminate purely seasonal fluctuations. This adjustment is applied to major industries.

A seasonally adjusted average weekly earnings series is derived by multiplying seasonally adjusted average weekly hours by seasonally adjusted average hourly earnings.

Survey methods

Collection methods. State employment security agencies collect survey data under contract with BLS. These agencies mail schedules to a sample of establishments in the States each month. A "shuttle" schedule is used; that is, one which is submitted each month in the calendar year by the respondent, edited by the State agency, and returned to the respondent for use again the following month. The State agency uses the information provided on the forms to develop State and area estimates of employment, hours, and earnings, and then forwards the data in machine-readable form to BLS Washington where they are used to prepare estimates at the national level.

Sample design. The sampling plan used in the survey is known as "sampling proportionate to average size of establishment." This design provides an optimum allocation among the estimating cells since the sampling variance is proportional to the average size of establishments. Large establishments fall into the sample with certainty, while the size of the sample for smaller establishments in the various industries is determined empirically on the basis of experience and cost considerations. For example, in a manufacturing industry in which a large proportion of total employment is concentrated in relatively few establishments, the sample design provides for a complete census of the large establishments, while only a few are chosen from among the smaller establishments. On the other hand, in an industry in which a large proportion of total employment is in small establishments, the sample design calls for inclusion of all large establishments and also for a substantial number of the small ones. Many industries in the trade and services divisions fall into this category.

Reliability. The earnings estimates are subject to sampling and nonsampling errors. Sampling errors may be expressed as relative errors of the estimates. (A relative error is a standard error expressed as a percent of the estimate.) Relative errors for industry divisions and for individual industries are published in *Employment and Earnings*. The chances are about 2 out of 3 that the earnings estimates from the sample would differ from the averages that would have been obtained from a complete census by a smaller percentage than the relative error.

Nonsampling errors are errors in the reported data due to respondents' failure or inability to follow the instructions on the reporting forms, errors of transposition at the establishment or the collection agency site, errors in the industrial classification of reports, etc. Response analysis surveys conducted from time to time by the Bureau have shown that these types of errors tend to be offsetting. No persistent pattern of errors has been identified and most of the errors detected have not significantly affected the aggregate earnings estimate.

For the two most recent months, estimates of earnings are preliminary, based on less than the total sample. These estimates are revised when all the reports in the sample have been received. This source of error is relatively small—revisions of preliminary earnings estimates are normally not greater than 1 cent for hourly earnings.

Annually, employment estimates are benchmarked to reflect complete employment counts (derived from the State unemployment insurance tax reporting system; see chapter 5). Earnings estimates are not directly subject to benchmark revisions, but averages across industry groupings may be affected slightly by changes in employment weights.

Presentation of the data

The earnings series appear in several BLS publications. The preliminary national data on gross average hourly and weekly earnings for industry divisions and major manufacturing groups appear in the monthly news release, *The Employment Situation*, usually issued 3 weeks after the week of reference for the data. These data also appear in the same detail in the *Monthly Labor Review* approximately 1½ months later (figures 3-1 and 3-2). Average hourly and weekly earnings in constant dollars are published in the news release, *Real Earnings*, issued during the third week of each month, at the time of release of the Consumer Price Index. The release contains the most up-to-date constant-dollar average weekly and hourly earnings statistics for industry divisions (figure 3-3).

Current earnings statistics are published with industry detail in the monthly publication, *Employment and Earnings* (figure 3-4). This periodical is published approximately 2 weeks after *The Employment Situation* is issued. In total, 451 gross average hourly and weekly earnings series are published, as well as 23 straight-time average hourly earnings series. Complete national historical data can be found in the latest edition of *Employment, Hours, and Earnings, United States* (Bulletin Series 1312); annual supplements of the periodical *Employment and Earnings* contain monthly data for the past 3 to 5 years.

Current gross average hourly and weekly earnings data for States and metropolitan areas are also published in *Employment and Earnings*; however, these data are limited to the manufacturing sector. (See figure 3-5.) Historical statistics (annual averages) are presented for the full range of major industrial categories in the latest edition of *Employment, Hours, and Earnings, States and Areas* (Bulletin Series 1370). In addition, detailed industry rates are available monthly in releases published by the cooperating State agencies.

The data also are disseminated through the publications of many other Federal agencies; e.g., the Department of Commerce, the Board of Governors of the Federal Reserve System, and the Council of Economic Advisers. They are also regularly republished in summary form or for specific industries in many trade association journals, the labor press, and in general reference works. BLS major data series for the Nation as well as for States and areas are also available for a fee on magnetic tape from the Office of Employment and Unemployment Statistics, Division of Data Development and Users' Services, Bureau of Labor Statistics, Washington, D.C. 20212. BLS also makes available some unpublished earnings series on request, subject to the Bureau's confidentiality restrictions.

Uses and limitations

Uses. The earnings data for broad industry divisions are used by business, labor, government, and research organizations in monitoring the economic well-being of the millions of Americans who depend on salaries and wages. Since they are the most current and comprehensive data available each month, these series are used as inputs in many other economic time series as well as in economic models for analyzing and projecting trends in the economy.

A common use of data on the hourly earnings estimates by detailed industry is for the escalation of the purchase price of comodities by parties to contracts involving items to be delivered several years in the future. These contract "escalation clauses" permit a revision of the settlement price depending on the movement of average hourly earnings at a detailed industry level. The earnings series are also widely used by both labor and management in contract negotiations. The time series not only furnish consistent current and historical information on a given industry but provide comparative data on related industries. The employment, earnings, and hours data are further used for guidance in plant location, sales, and purchase decisions by business firms and trade associations; many government agencies use the same data when making long-term purchasing commitments.

Limitations. Because of the many years of historical continuity, extensive industry detail, and the availability of current, monthly estimates, the earnings series produced from the CES survey are used widely as an indicator of current trends in total labor costs. In the short run, this use has generally been acceptable. Over the long run, however, use of the earnings series to measure change in labor costs has been questioned. Changes in the mix of occupations within establishments; an ever-increasing proportion of part-time workers in many industries; and the growing importance of benefits, which are not covered by the earnings series, have all affected the series so that they underrepresent long-term total compensation trends. Therefore, users of these data must judge whether—for their purposes—the value of industry-specific measures available on a current basis overrides such measurement shortcomings.

Recently, the value of the CES earnings data for estimating even short-run changes in labor costs has been challenged. CES payroll data collected from employers are limited to "regular" payroll. By definition, irregular payments to employees have been excluded so as to maintain continuity of the earnings series. New compensation practices—such as paying lump-sum amounts rather than increasing basic wage rates—plus growing reliance on irregular payments such as bonuses, perfect attendance awards, cash profit sharing, etc., to reward employees are, therefore, not reflected in the CES series. To the extent that such practices replace the more traditional adjustments in wage rates, the CES earnings series become increasingly inappropriate for measuring labor cost trends in the short run. Users of the earnings data from the CES survey should be aware that the data reflect only the regular payrolls for the pay period being surveyed each month.

The gross average hourly earnings series reflect actual earnings of workers, including premium pay. They differ from wage rates, which are the amounts stipulated for a given unit of work or time. Earnings for those employees not covered under the production worker and nonsupervisory employee categories are, of course, not reflected in the estimates. The hourly earnings series do not exclude the effects of interindustry employment shifts, such as the shift of workers between high-wage and low-wage industries. Gross average hourly earnings do not represent total compensation costs per hour for the employer, because they exclude retroactive payments and irregular bonuses, various welfare benefits, and the employer's share of payroll taxes. (The Hourly Earnings Index discussed in the appendix to this chapter, eliminates the effects of interindustry employment shifts.)

To approximate straight-time average hourly earnings, gross average hourly earnings are adjusted by assuming that premium pay for overtime is paid at the rate of time and one-half. Thus, no adjustment is made for other premium payment provisions such as holiday work, late-shift work, and premium overtime rates other than at time and one-half.

The workweek information relates to average hours paid for, which differ from scheduled hours or hours worked. Average weekly hours reflect the effects of such factors as absenteeism, labor turnover, part-time work, and strikes.

"Real" earnings data (expressed in 1977 dollars) result from the adjustment of gross earnings to reflect changes in the Consumer Price Index. They indicate changes in the purchasing power of money earnings as a result of changes in prices for consumer goods and services. They do not, however, measure changes in living standards as a whole, which are also affected by a variety of other factors.

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Figure 3.1

14. Average hourly earnings, by industry

[Production or nonsupervisory workers on private nonagricultural payrolls]

Industry	Annual average		1984								1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[p]	May[p]
PRIVATE SECTOR	$8.02	$8.33	$8.28	$8.30	$8.32	$8.30	$8.43	$8.40	$8.43	$8.46	$8.50	$8.52	$8.52	$8.53	$8.54
Seasonally adjusted	(1)	(1)	8.29	8.32	8.35	8.35	8.40	8.38	8.42	8.47	8.44	8.49	8.53	8.54	8.55
MINING	11.28	11.63	11.61	11.62	11.63	11.62	11.72	11.58	11.63	11.70	11.86	11.90	11.91	11.90	11.82
CONSTRUCTION	11.94	12.12	12.08	12.03	12.06	12.10	12.24	12.23	12.10	12.26	12.30	12.33	12.22	12.20	12.25
MANUFACTURING	8.83	9.18	9.12	9.15	9.19	9.15	9.24	9.24	9.31	9.40	9.43	9.43	9.45	9.48	9.48
Durable goods	9.39	9.74	9.68	9.72	9.73	9.70	9.79	9.78	9.85	9.96	9.99	9.99	10.01	10.03	10.05
Lumber and wood products	7.80	8.03	7.95	8.08	8.07	8.10	8.20	8.11	8.06	8.09	8.10	8.09	8.06	8.05	8.14
Furniture and fixtures	6.62	6.85	6.78	6.82	6.87	6.88	6.94	6.93	6.95	6.99	7.01	7.01	7.07	7.08	7.10
Stone, clay, and glass products	9.28	9.57	9.54	9.58	9.64	9.63	9.65	9.64	9.67	9.68	9.70	9.73	9.71	9.79	9.80
Primary metal industries	11.35	11.47	11.53	11.50	11.49	11.38	11.43	11.36	11.49	11.49	11.55	11.69	11.66	11.66	11.67
Blast furnaces and basic steel products	12.89	12.99	13.09	13.02	13.03	12.90	13.01	12.86	12.99	12.95	13.07	13.42	13.27	13.34	13.34
Fabricated metal products	9.12	9.38	9.35	9.35	9.35	9.33	9.43	9.40	9.44	9.58	9.59	9.59	9.62	9.65	9.64
Machinery, except electrical	9.55	9.96	9.90	9.33	9.96	9.93	10.02	10.02	10.07	10.16	10.13	10.14	10.15	10.19	10.22
Electrical and electronic equipment	8.67	9.04	8.94	8.97	9.00	9.05	9.13	9.15	9.20	9.32	9.33	9.33	9.39	9.39	9.42
Transportation equipment	11.67	12.22	12.06	12.17	12.16	12.16	12.26	12.32	12.45	12.62	12.67	12.63	12.59	12.62	12.59
Motor vehicles and equipment	12.14	12.74	12.56	12.72	12.66	12.64	12.74	12.86	13.02	13.27	13.41	13.35	13.29	13.37	13.29
Instruments and related products	8.48	8.85	8.75	8.82	8.88	8.89	8.96	8.93	8.95	9.03	9.00	9.11	9.10	9.11	9.14
Miscellaneous manufacturing	6.81	7.04	7.04	7.03	7.07	7.01	7.05	7.05	7.06	7.16	7.23	7.19	7.20	7.22	7.30
Nondurable goods	8.08	8.37	8.30	8.33	8.41	8.37	8.44	8.44	8.52	8.55	8.59	8.60	8.61	8.67	8.64
Food and kindred products	8.19	8.38	8.41	8.42	8.39	8.33	8.35	8.31	8.43	8.45	8.48	8.51	8.53	8.58	8.59
Tobacco manufactures	10.38	11.27	11.65	12.00	11.77	10.92	10.52	10.60	11.93	11.17	11.39	11.80	12.00	12.02	12.48
Textile mill products	6.18	6.46	6.43	6.44	6.44	6.47	6.50	6.49	6.55	6.57	6.59	6.60	6.64	6.72	6.67
Apparel and other textile products	5.38	5.55	5.50	5.53	5.53	5.55	5.63	5.61	5.61	5.68	5.73	5.70	5.73	5.75	5.70
Paper and allied products	9.93	10.41	10.30	10.38	10.52	10.47	10.51	10.52	10.64	10.66	10.63	10.64	10.64	10.72	10.72
Printing and publishing	9.11	9.40	9.33	9.31	9.38	9.44	9.53	9.50	9.56	9.57	9.58	9.60	9.61	9.59	9.60
Chemicals and allied products	10.58	11.08	10.99	11.00	11.09	11.09	11.20	11.29	11.31	11.34	11.39	11.39	11.37	11.47	11.45
Petroleum and coal products	13.28	13.43	13.31	13.32	13.25	13.30	13.52	13.51	13.66	13.62	13.96	13.99	14.06	14.13	13.97
Rubber and miscellaneous plastics products	8.00	8.29	8.22	8.24	8.31	8.29	8.32	8.32	8.40	8.44	8.49	8.48	8.46	8.48	8.43
Leather and leather products	5.54	5.70	5.68	5.67	5.71	5.68	5.73	5.72	5.76	5.80	5.72	5.79	5.82	5.83	5.84
TRANSPORTATION AND PUBLIC UTILITIES	10.79	11.11	10.99	11.03	11.14	11.13	11.22	11.18	11.25	11.28	11.23	11.27	11.27	11.28	11.24
WHOLESALE TRADE	8.55	8.96	8.88	8.91	8.98	8.96	9.06	9.00	9.08	9.19	9.16	9.22	9.19	9.23	9.26
RETAIL TRADE	5.74	5.88	5.87	5.87	5.86	5.82	5.88	5.88	5.93	5.89	5.97	5.99	5.97	5.95	5.96
FINANCE, INSURANCE, AND REAL ESTATE	7.29	7.62	7.55	7.58	7.60	7.57	7.76	7.67	7.71	7.78	7.77	7.87	7.87	7.88	7.90
SERVICES	7.31	7.64	7.58	7.56	7.59	7.56	7.72	7.71	7.77	7.84	7.84	7.87	7.87	7.88	7.88

[1] Not available

p = preliminary

NOTE: Data have been revised to reflect March 1984 benchmarks and updated seasonal adjustment factors. Because of these revisions, data in this table may differ from data published previously.

SOURCE: *Monthly Labor Review*, July 1985.

Figure 3.2

16. Average weekly earnings, by industry

[Production or nonsupervisory workers on private nonagricultural payrolls]

Industry	Annual average		1984								1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.^{p}	May^p
PRIVATE SECTOR															
Current dollars	$280.70	$294.05	$291.46	$294.65	$296.19	$294.65	$298.42	$294.84	$295.89	$300.33	$294.95	$294.79	$298.20	$297.70	$298.90
Seasonally adjusted	(1)	(1)	292.64	293.70	294.76	293.92	296.52	294.98	296.38	298.14	296.24	298.00	300.26	299.75	299.25
Constant (1977) dollars	171.37	173.48	173.18	174.66	174.85	172.31	173.50	171.42	172.23	174.61	171.28	170.50	171.68	170.60	(1)
MINING	479.40	503.58	501.55	507.79	500.09	505.47	515.68	500.26	505.91	515.97	508.79	514.08	519.28	517.65	515.35
CONSTRUCTION	442.97	456.92	460.25	464.36	464.31	464.64	471.24	464.74	451.33	460.98	447.72	451.28	460.69	461.16	464.28
MANUFACTURING															
Current dollars	354.08	373.63	371.18	373.32	370.36	369.66	376.07	374.22	378.92	387.28	380.03	374.37	381.78	380.15	381.10
Constant (1977) dollars	216.17	220.43	220.55	221.29	218.63	216.18	218.65	217.57	220.56	225.16	220.69	216.52	219.79	217.85	(1)
Durable goods	382.17	403.24	400.75	403.38	397.96	397.70	406.29	403.91	407.79	419.32	410.59	403.60	412.41	409.22	411.05
Lumber and wood products	312.78	320.40	318.80	325.62	318.77	324.00	332.10	322.78	315.95	321.98	315.90	309.85	317.56	317.98	324.79
Furniture and fixtures	260.83	271.95	267.81	270.07	269.30	272.45	278.29	278.59	278.70	283.79	276.19	270.59	277.85	276.12	273.35
Stone, clay, and glass products	385.12	401.94	404.50	407.15	406.81	406.39	409.16	406.81	406.14	404.62	392.85	393.09	404.91	411.18	414.54
Primary metal industries	459.68	478.30	483.11	481.85	474.54	464.30	474.35	464.62	475.69	477.98	473.55	478.12	481.56	482.72	485.47
Blast furnaces and basic steel products	509.16	527.39	540.62	536.42	525.11	506.97	524.30	506.68	524.80	516.71	517.57	544.85	540.09	553.61	554.94
Fabricated metal products	370.27	388.33	388.03	388.96	381.48	382.53	390.40	388.22	389.87	405.23	395.11	387.44	396.34	394.89	394.28
Machinery except electrical	386.78	417.32	413.82	417.06	412.34	412.10	420.84	417.83	422.94	434.85	422.42	415.74	424.27	417.79	420.04
Electrical and electronic equipment	351.14	370.64	365.65	367.77	363.60	368.34	376.16	374.24	379.04	389.58	379.73	373.20	383.11	375.60	376.80
Transportation equipment	491.31	521.79	514.96	520.88	509.50	507.07	519.82	523.60	531.62	554.02	546.08	524.15	537.59	536.35	535.08
Motor vehicles and equipment	525.66	558.01	550.13	559.68	539.32	534.67	550.37	556.84	565.07	597.15	594.06	559.37	576.79	581.60	575.46
Instruments and related products	342.59	365.51	357.00	364.27	363.19	364.49	373.63	367.92	373.22	382.87	369.90	369.87	374.01	368.96	372.00
Miscellaneous manufacturing	266.27	277.38	276.67	275.58	275.02	274.09	279.18	279.89	280.99	285.68	279.08	276.82	282.24	280.86	283.24
Nondurable goods	318.35	331.45	328.68	331.53	331.35	331.45	335.07	332.54	337.39	342.00	336.73	333.68	338.37	338.13	339.55
Food and kindred products	323.51	333.52	333.04	336.80	333.08	334.03	336.51	330.74	337.20	342.23	334.96	331.89	335.23	335.48	342.74
Tobacco manufactures	388.21	438.40	461.34	487.20	441.38	428.06	416.59	420.82	480.78	433.40	424.85	442.50	452.40	411.08	459.26
Textile mill products	249.67	257.75	257.84	260.18	253.09	256.86	256.10	253.11	257.42	258.86	257.01	254.10	258.96	258.72	262.13
Apparel and other textile products	194.76	202.02	200.75	203.50	199.08	201.47	203.24	203.08	203.08	206.75	205.13	202.35	206.85	203.55	205.77
Paper and allied products	423.02	448.67	441.87	447.38	453.41	449.16	456.13	453.41	460.71	466.91	456.03	451.14	454.33	457.74	456.67
Printing and publishing	342.54	356.26	352.67	350.06	352.69	357.78	363.09	359.10	364.24	366.53	359.25	358.08	362.30	359.63	357.12
Chemicals and allied products	440.13	464.25	459.38	462.00	462.45	462.45	470.40	469.66	473.89	480.82	477.24	476.10	478.68	480.59	479.76
Petroleum and coal products	582.99	586.89	580.32	580.75	580.35	583.87	597.58	590.39	596.94	584.30	597.49	594.58	601.77	611.83	596.52
Rubber and miscellaneous plastics products	329.60	345.69	342.77	345.26	342.37	343.21	345.28	345.28	349.44	355.32	352.34	343.44	347.71	346.83	342.26
Leather and leather products	203.87	209.76	209.59	213.76	212.98	206.75	208.57	207.64	210.82	215.18	207.64	207.28	212.43	214.54	217.25
TRANSPORTATION AND PUBLIC UTILITIES	420.81	437.73	430.81	438.99	445.60	441.86	447.68	438.26	444.38	445.56	440.22	440.66	442.91	443.30	441.73
WHOLESALE TRADE	329.18	345.86	342.77	344.82	348.42	347.65	351.53	348.30	351.40	357.49	351.74	352.20	353.82	354.43	357.44
RETAIL TRADE	171.05	176.40	176.10	178.45	179.90	178.09	176.40	174.64	176.12	179.65	173.73	174.31	175.52	174.93	177.01
FINANCE, INSURANCE, AND REAL ESTATE	263.90	278.13	274.07	275.15	278.92	275.55	284.02	279.96	280.64	285.53	282.83	286.47	286.47	286.83	286.77
SERVICES	239.04	250.59	247.87	248.72	251.99	249.48	253.22	252.12	254.08	257.94	254.80	256.56	256.56	257.68	256.89

[1] Not available

p = preliminary

NOTE: Data have been revised to reflect March 1984 benchmarks and updated seasonal adjustment factors. Because of these revisions, data in this table may differ from data published previously.

SOURCE: *Monthly Labor Review*, July 1985.

Figure 3.3

C-4. Average hourly and weekly earnings of production or nonsupervisory workers[1] on private nonagricultural payrolls by major industry, in current and constant (1977) dollars.

Industry	Average hourly earnings					Average weekly earnings				
	Apr. 1984	May 1984	Mar. 1985	Apr. 1985[p]	May 1985[p]	Apr. 1984	May 1984	Mar. 1985	Apr. 1985[p]	May 1985[p]
Total private:										
Current dollars	$8.29	$8.28	$8.52	$8.53	$8.54	$291.81	$291.46	$298.20	$297.70	$298.90
Constant (1977) dollars	4.95	4.92	4.90	4.89	(2)	174.21	173.18	171.68	170.60	(2)
Mining:										
Current dollars	11.66	11.61	11.91	11.90	$11.82	501.38	501.55	519.28	517.65	$515.35
Constant (1977) dollars	6.96	6.90	6.85	6.82	(2)	299.33	298.01	298.95	296.65	(2)
Construction:										
Current dollars	12.05	12.08	12.22	12.20	$12.25	451.88	460.25	460.69	461.16	$464.28
Constant (1977) dollars	7.19	7.18	7.03	6.99	(2)	269.78	273.47	265.22	264.28	(2)
Manufacturing:										
Current dollars	9.12	9.12	9.45	9.48	$9.48	373.01	371.18	381.78	380.15	$381.10
Constant (1977) dollars	5.45	5.42	5.44	5.43	(2)	222.69	220.55	219.79	217.85	(2)
Transportation and public utilities:										
Current dollars	11.04	10.99	11.27	11.28	$11.24	433.87	430.81	442.91	443.30	$441.73
Constant (1977) dollars	6.59	6.53	6.49	6.47	(2)	259.03	255.98	254.99	254.04	(2)
Wholesale trade:										
Current dollars	8.91	8.88	9.19	9.23	$9.26	343.04	342.77	353.82	354.43	$357.44
Constant (1977) dollars	5.32	5.27	5.29	5.29	(2)	204.80	203.67	203.70	203.11	(2)
Retail trade:										
Current dollars	5.88	5.87	5.97	5.95	$5.96	175.22	176.10	175.52	174.93	$177.01
Constant (1977) dollars	3.51	3.49	3.44	3.41	(2)	104.61	104.63	101.05	100.25	(2)
Finance, insurance, and real estate:										
Current dollars	7.62	7.55	7.87	7.88	$7.90	278.13	274.07	286.47	286.83	$286.77
Constant (1977) dollars	4.55	4.48	4.53	4.52	(2)	166.05	162.85	164.92	164.37	(2)
Services:										
Current dollars	7.62	7.58	7.87	7.88	$7.88	249.94	247.87	256.56	257.68	$256.89
Constant (1977) dollars	4.55	4.50	4.53	4.51	(2)	149.22	147.28	147.70	147.67	(2)

[1] Data relate to production workers in mining and manufacturing; construction workers in construction; and nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services.

[2] Not available.

[p] = preliminary.

NOTE: The Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) is used to deflate the earnings series. Data in this table have been revised to reflect March 1984 benchmarks and may differ slightly from data previously published. See the article in this issue for additional information.

SOURCE: News release, "Real Earnings in May 1985," Bureau of Labor Statistics. (Subsequently published as table C-4 in ***Employment and Earnings***, May 1985, Bureau of Labor Statistics.)

Figure 3.4

ESTABLISHMENT DATA
HOURS AND EARNINGS
NOT SEASONALLY ADJUSTED

C-2. Average hours and earnings of production or nonsupervisory workers[1] on private nonagricultural payrolls by detailed industry—Continued

Industry	1972 SIC Code	Average hourly earnings					Average weekly earnings				
		Apr. 1984	May 1984	Mar. 1985	Apr. 1985p	May 1985p	Apr. 1984	May 1984	Mar. 1985	Apr. 1985p	May 1985p
Total private		$8.29	$8.28	$8.52	$8.53	$8.54	$291.81	$291.46	$298.20	$297.70	$298.90
Mining		11.66	11.61	11.91	11.90	11.82	501.38	501.55	519.28	517.65	515.35
Metal mining	10	12.94	13.02	13.29	13.47	-	522.78	531.22	542.23	553.62	-
Iron ores	101	12.53	12.80	13.14	13.36	-	491.18	504.32	516.40	531.73	-
Copper ores	102	13.48	13.56	13.47	13.71	-	559.42	574.94	577.86	600.50	-
Coal mining	11,12	14.63	14.63	15.28	15.35	-	598.37	601.29	638.70	627.82	-
Bituminous coal and lignite mining	12	14.68	14.68	15.34	15.41	-	600.41	604.82	642.75	630.27	-
Oil and gas extraction	13	10.80	10.71	10.92	10.90	-	474.12	470.17	484.85	485.05	-
Crude petroleum, natural gas, and natural gas liquids	131,2	12.86	12.71	13.21	13.26	-	538.83	526.19	560.10	555.59	-
Oil and gas field services	138	9.95	9.90	10.01	9.99	-	445.76	445.50	453.45	454.55	-
Nonmetallic minerals, except fuels	14	9.73	9.73	10.02	10.02	-	429.09	434.93	441.88	448.90	-
Crushed and broken stone	142	9.08	9.18	9.29	9.37	-	405.88	420.44	424.55	433.83	-
Construction		12.05	12.08	12.22	12.20	12.25	451.88	460.25	460.69	461.16	464.28
General building contractors	15	10.79	10.82	11.14	11.18	-	400.31	403.59	416.64	419.25	-
Residential building construction	152	10.06	10.12	10.69	10.73	-	366.18	373.43	395.53	399.16	-
Operative builders	153	9.03	9.00	9.27	9.32	-	356.69	353.70	360.60	368.14	-
Nonresidential building construction	154	11.66	11.68	11.73	11.79	-	437.25	439.17	441.05	442.13	-
Heavy construction contractors	16	11.68	11.80	11.91	11.79	-	477.71	489.70	490.69	485.75	-
Highway and street construction	161	10.35	10.74	10.35	10.66	-	424.35	453.23	417.11	443.46	-
Heavy construction, except highway	162	12.27	12.36	12.52	12.33	-	500.62	509.23	520.83	505.53	-
Special trade contractors	17	12.75	12.77	12.82	12.81	-	466.65	476.32	470.49	472.69	-
Plumbing, heating, and air conditioning	171	12.61	12.70	13.02	13.02	-	470.35	485.14	494.76	492.16	-
Painting, paper hanging, and decorating	172	11.67	11.60	11.91	11.91	-	408.45	414.12	414.47	413.28	-
Electrical work	173	14.16	14.28	14.26	14.33	-	547.99	558.35	550.44	548.84	-
Masonry, stonework, and plastering	174	12.67	12.71	12.87	13.00	-	443.45	448.66	455.60	462.80	-
Carpentering and flooring	175	11.74	11.61	11.75	11.96	-	400.33	409.83	407.73	422.19	-
Roofing and sheet metal work	176	11.16	11.15	11.16	11.22	-	370.51	391.37	364.93	379.24	-
Manufacturing		9.12	9.12	9.45	9.48	9.48	373.01	371.18	381.78	380.15	381.10
Durable goods		9.69	9.68	10.01	10.03	10.05	404.07	400.75	412.41	409.22	411.05
Lumber and wood products	24	7.93	7.95	8.06	8.05	8.14	318.79	318.80	317.56	317.98	324.79
Logging camps and logging contractors	241	10.41	10.54	10.53	10.57	-	401.83	412.11	399.09	406.95	-
Sawmills and planing mills	242	8.38	8.40	8.43	8.36	-	345.26	342.72	339.73	336.07	-
Sawmills and planing mills, general	2421	8.85	8.87	8.89	8.81	-	367.28	364.56	360.05	355.92	-
Hardwood dimension and flooring	2426	5.80	5.80	6.07	6.07	-	232.00	231.42	244.01	240.37	-
Millwork, plywood, and structural members	243	7.76	7.71	7.99	8.01	-	315.06	311.48	315.61	319.60	-
Millwork	2431	7.90	7.90	8.15	8.26	-	318.37	314.42	316.22	327.92	-
Wood kitchen cabinets	2434	7.06	7.01	7.22	7.22	-	286.64	285.31	281.58	285.19	-
Hardwood veneer and plywood	2435	6.30	6.27	6.53	6.60	-	255.78	252.05	266.42	264.66	-
Softwood veneer and plywood	2436	9.64	9.53	9.86	9.81	-	399.10	389.78	405.25	397.31	-
Wood containers	244	5.72	5.70	5.80	5.83	-	220.22	218.88	222.72	221.54	-
Wood buildings and mobile homes	245	7.03	7.12	7.25	7.22	-	267.84	274.83	272.60	270.75	-
Mobile homes	2451	7.09	7.22	7.23	7.21	-	273.67	279.41	274.02	272.54	-
Miscellaneous wood products	249	6.78	6.81	7.01	7.04	-	276.62	277.85	281.80	278.78	-
Furniture and fixtures	25	6.75	6.78	7.07	7.08	7.10	266.63	267.81	277.85	276.12	273.35
Household furniture	251	6.23	6.24	6.47	6.49	-	243.59	242.74	252.33	250.51	-
Wood household furniture	2511	5.72	5.73	5.97	5.99	-	225.94	225.76	233.43	233.61	-
Upholstered household furniture	2512	6.77	6.74	7.01	7.01	-	260.65	254.10	271.99	267.78	-
Metal household furniture	2514	6.27	6.31	6.58	6.70	-	253.94	254.92	263.86	261.30	-
Mattresses and bedsprings	2515	6.96	7.04	7.10	7.11	-	256.82	259.78	271.93	267.34	-
Office furniture	252	7.41	7.43	7.99	7.97	-	301.59	304.63	321.20	314.82	-
Public building and related furniture	253	7.46	7.53	7.57	7.60	-	298.40	300.45	303.56	303.24	-
Partitions and fixtures	254	8.24	8.28	8.54	8.56	-	326.30	332.86	336.48	337.26	-
Miscellaneous furniture and fixtures	259	7.22	7.22	7.66	7.54	-	291.69	293.85	306.40	303.11	-

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[1] Data relate to production workers in mining and manufacturing; construction workers in construction; and nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services.

p = preliminary.

SOURCE: *Employment and Earnings*, June 1985.

Figure 3.5

ESTABLISHMENT DATA
STATE AND AREA HOURS AND EARNINGS
NOT SEASONALLY ADJUSTED

C-8. Average hours and earnings of production workers on manufacturing payrolls in States and selected areas

State and area	Average weekly hours			Average hourly earnings			Average weekly earnings		
	Apr. 1984	Mar. 1985	Apr. 1985[p]	Apr. 1984	Mar. 1985	Apr. 1985[p]	Apr. 1984	Mar. 1985	Apr. 1985[p]
Alabama	41.1	40.3	40.9	$7.88	$8.45	$8.48	$323.87	$340.54	$346.83
Birmingham	41.5	39.8	40.9	8.28	8.64	8.83	343.62	343.87	361.15
Mobile	41.1	41.9	43.2	9.83	9.83	9.91	404.01	411.88	428.11
Alaska	37.3	38.1	36.7	14.27	13.09	13.89	532.27	498.73	509.76
Arizona	40.9	40.3	40.3	9.13	9.41	9.50	373.42	379.22	382.85
Phoenix	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Tucson	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Arkansas	40.5	39.8	39.7	7.28	7.50	7.45	294.84	298.50	295.77
Fayetteville-Springdale	41.0	39.1	40.0	6.28	6.51	6.54	257.48	254.54	261.60
Fort Smith	40.1	39.7	38.9	7.67	7.81	7.75	307.57	310.06	301.48
Little Rock-North Little Rock	40.4	39.6	40.1	7.85	8.30	8.35	317.14	328.68	334.84
Pine Bluff	41.0	41.5	42.3	9.16	9.09	9.14	375.56	377.24	386.62
California	40.6	40.4	39.8	9.69	10.02	10.05	393.41	404.81	399.99
Colorado	40.8	41.3	41.0	9.16	9.40	9.47	373.73	388.22	388.27
Denver-Boulder	40.8	41.6	41.3	9.54	9.79	9.88	389.23	407.26	408.04
Connecticut	42.9	42.1	41.8	9.17	9.45	9.48	393.39	397.85	396.26
Bridgeport-Milford	42.8	41.5	41.4	9.59	10.08	10.06	410.45	418.32	416.48
Hartford	42.7	42.5	42.1	9.76	9.92	9.88	416.75	421.60	415.95
New Britain	42.2	42.1	42.0	9.36	9.56	9.60	394.99	402.48	403.20
New Haven-Meriden	41.0	41.0	40.8	9.04	9.07	9.12	370.64	371.87	372.10
Stamford	41.3	42.5	42.3	9.11	9.23	9.37	376.24	392.28	396.35
Waterbury	43.7	43.2	41.6	7.78	7.89	7.94	339.99	340.85	330.30
Delaware	42.6	42.3	41.2	9.38	9.70	9.86	399.59	410.31	406.23
Wilmington	44.0	42.6	42.1	10.71	11.02	11.30	471.24	469.45	475.73
District of Columbia:									
Washington MSA	37.7	38.7	38.1	10.14	10.42	10.68	382.28	403.25	406.91
Florida	41.0	40.8	40.9	7.54	7.76	7.82	309.14	316.61	319.84
Fort Lauderdale-Hollywood-Pompano Beach	41.0	42.0	40.5	7.11	7.62	7.65	291.51	320.04	309.83
Jacksonville	41.0	41.1	41.4	8.16	8.00	8.08	334.56	328.80	334.51
Lakeland-Winter Haven	40.5	40.3	40.0	7.52	7.64	7.70	304.56	307.89	308.00
Miami-Hialeah	39.3	39.6	40.0	6.35	6.79	6.75	249.56	268.88	270.00
Orlando	42.5	42.3	42.4	7.93	8.14	8.26	337.03	344.32	350.22
Pensacola	42.6	42.3	40.7	8.97	9.29	9.33	382.12	392.97	379.73
Tampa-St. Petersburg-Clearwater	42.2	41.3	41.4	7.48	7.78	7.73	315.66	321.31	320.02
West Palm Beach-Boca Raton-Delray Beach	40.7	41.5	41.6	7.67	8.13	8.20	312.17	337.40	341.12
Georgia	41.3	40.6	40.5	7.51	7.92	7.94	310.16	321.55	321.57
Atlanta	41.2	40.6	41.4	8.70	9.22	9.20	358.44	374.33	380.88
Savannah	45.8	43.3	44.2	9.59	9.98	9.72	439.22	432.13	429.62
Hawaii	38.3	37.8	37.3	8.49	8.58	8.46	325.17	324.32	315.56
Honolulu	38.1	38.4	38.3	8.44	8.72	8.52	321.56	334.85	326.32
Idaho	37.9	37.4	36.1	8.88	9.07	9.20	336.55	339.22	332.12
Illinois	41.4	40.5	40.2	10.03	10.30	10.31	415.24	417.15	414.46
Aurora-Elgin	38.1	39.8	39.9	10.04	10.03	9.97	382.52	399.19	397.80
Bloomington-Normal	40.9	40.9	38.6	9.45	10.53	10.70	386.51	430.68	413.02
Champaign-Urbana-Rantoul	35.6	40.2	40.2	9.22	9.16	9.12	328.23	368.23	366.62
Chicago	41.8	41.3	41.1	9.80	10.09	10.10	409.64	416.72	415.11
Davenport-Rock Island-Moline	39.2	39.6	38.9	12.26	12.26	12.38	480.59	485.50	481.58
Decatur	37.9	41.0	40.8	12.83	13.13	13.20	486.26	538.33	538.56
Joliet	41.8	40.1	39.7	11.20	11.42	11.48	468.16	457.94	455.76
Kankakee	35.3	38.6	37.8	8.85	9.85	10.23	312.41	380.21	386.69
Lake County	39.9	40.6	39.6	9.28	10.06	10.00	370.27	408.44	396.00
Peoria	38.1	41.5	40.2	12.41	12.61	12.56	472.82	523.32	504.91
Rockford	42.1	42.2	42.1	9.97	10.48	10.46	419.74	442.26	450.47
Springfield	38.1	41.8	39.6	10.79	11.45	11.48	411.10	478.61	454.61

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[1] Not available.

[p] = preliminary.

NOTE: Area definitions are published annually in the May issue of this publication. All State and area data have been adjusted to March 1984 benchmarks.

SOURCE: *Employment and Earnings*, June 1985.

Appendix to chapter 3. The Hourly Earnings Index

The Bureau's Hourly Earnings Index was first published in 1971 as an outgrowth of the basic hourly earnings series described in this chapter. The index excludes the effects of two types of changes unrelated to wage-rate developments: Fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available); and changes in the proportion of workers in high-wage and low-wage industries (but not between high- and low-wage occupations within an industry). In addition, seasonal adjustment eliminates the effect of changes that normally occur at the same time and in about the same magnitude each year.

The index is constructed for a given month by weighting the average hourly earnings in each industry (at the 3-digit level of detail, as defined in the *Standard Industrial Classification Manual*) by the employee-hours paid for in that industry in 1977. The weighted average for that month is then compared with the 1977 average.

Starting with January 1964, data are available by month in both current and deflated (1977) dollars for the private nonfarm economy and for seven broad industry divisions. For the manufacturing division only, monthly data are available back to 1947. For the private nonfarm sector only, annual averages are available from 1947 to 1963, calculated at the industry division level of detail. These are linked to the series starting in 1964.

Although the index is timely, it has certain shortcomings: (1) It provides no occupational or regional data; (2) it is not adjusted for the influence of overtime premium pay in the nonmanufacturing sector, which accounts for two-thirds of total employment; (3) it is restricted to earnings of production or nonsupervisory employees; (4) it does not cover the farm and government sectors; and (5) supplements to pay are excluded. These shortcomings have, in part, prompted the development of the Employment Cost Index. (See chapter 7.)

The data are published monthly in Bureau periodicals, including *Current Wage Developments* and the *Monthly Labor Review*, after initial presentation in the monthly news release, *The Employment Situation*. (See figure 3-A.)

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References

Samuels, Norman J. "New Hourly Earnings Index," *Monthly Labor Review*, December 1971, pp. 66-67.

Figure 3-A

15. The Hourly Earnings Index, by Industry

[Production or nonsupervisory workers on private nonagricultural payrolls; 1977 = 100]

Industry	Not seasonally adjusted					Seasonally adjusted						
	May 1984	Mar. 1985	Apr. 1985^p	May 1985^p	Percent change from: May 1984 to May 1985	May 1984	Jan. 1985	Feb. 1985	Mar. 1985	Apr. 1985^p	May 1985^p	Percent change from: Apr. 1985 to May 1985
PRIVATE SECTOR (in current dollars)	159.9	164.3	164.7	164.8	3.1	159.9	163.0	164.0	164.4	164.7	164.8	0.1
Mining	172.6	177.8	178.4	178.0	3.1	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Construction	147.6	148.8	149.1	149.0	1.0	148.3	149.2	150.8	149.9	150.3	149.8	−.4
Manufacturing	162.1	167.3	168.0	168.2	3.8	162.3	166.3	166.9	167.4	167.9	168.5	.3
Transportation and public utilities	160.9	164.8	164.7	164.3	2.7	160.8	163.5	164.2	165.4	165.2	165.1	(2)
Wholesale trade	164.4	169.9	170.6	170.6	3.8	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Retail trade	154.2	155.8	155.9	156.0	1.2	153.5	154.5	155.4	155.5	155.4	155.4	−.1
Finance, insurance, and real estate	164.2	170.3	170.6	170.8	4.1	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Services	161.7	167.4	167.8	167.9	3.8	161.6	164.9	166.2	167.2	167.6	167.7	.1
PRIVATE SECTOR (in constant dollars)	95.0	94.6	94.4	(3)	(3)	95.0	94.5	94.7	94.5	94.3	(3)	(3)

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

[2] Percent change is less than .05 percent.

[3] Not available.

p = preliminary.

NOTE: Data have been revised to reflect March 1984 benchmarks and updated seasonal adjustment factors. Because of these revisions, data in this table may differ from data published previously.

SOURCE: *Monthly Labor Review*, July 1985.

Chapter 4. Earnings Statistics from the Current Population Survey

Each month, the Bureau of Labor Statistics analyzes and publishes data on the labor force, employment, unemployment, and persons not in the labor force, classified by demographic, social, and economic characteristics. These statistics are derived from the Current Population Survey (CPS), also a valuable source of information on earnings.This survey is conducted using a sample of households, representative of the civilian noninstitutional population of the United States.

The forerunner to the CPS was the Monthly Report on Unemployment. It was initiated by the Works Progress Administration in 1940 in response to the increased need for data on the employment status of the U.S. population. In 1942, when the survey was transferred to the Bureau of the Census, its title was changed to Monthly Report on the Labor Force, and in 1948 it was changed to its present name, CPS, to reflect the expanded role of the survey as a source of key economic and social data. In 1959, responsibility for analyzing and publishing labor force data was transferred to BLS.

The Current Population Survey produces data on the weekly earnings of wage and salary workers and their families, which BLS publishes on a quarterly basis. In addition, annual earnings and some total income data are published in conjunction with data on the economic status of families and on the employment problems of workers. Data on the hourly earnings of workers paid hourly rates are available in unpublished form. Because it is a household survey, the CPS is able to provide substantial detail on the demographic, social, and economic characteristics of workers and their families. These data complement earnings data from another BLS survey, the Current Employment Statistics survey of business establishments. (See chapter 3.)

Description of the survey

The Current Population Survey is conducted for the BLS by the Bureau of the Census. It uses a scientifically selected national sample of about 59,500 occupied households chosen from 729 sample areas in 1,973 counties and independent cities, with coverage in all 50 States and the District of Columbia. The survey provides the household employment and unemployment data published each month in *The Employment Situation* news release and the periodical *Employment and Earnings*. Participation in the CPS is not compulsory; survey respondents are assured that all information obtained is completely confidential and is used only for the purpose of statistical analysis.[1]

In addition to the monthly basic questions on labor force status, the CPS questionnaire frequently contains supplemental questions on other subjects. For example, each March, information is collected on the previous calendar year's earnings, income from other sources, and work experience. Between 1967 and 1978 (except 1968), supplemental questions on usual weekly earnings were asked each May; questions on hourly earnings were added in May 1973. Data obtained through CPS supplemental questions have been published by BLS in news releases, *Monthly Labor Review* articles, bulletins, and reports.

Collection of data

Usual weekly and hourly earnings. During the 1960's and 1970's the demand for demographic data on earnings grew considerably. Such data were needed to keep track of the differences in earnings among the various population groups—men and women; whites, blacks, and Hispanics; the young and the old. In addition, there was an increasing demand for data on the earnings of families, particularly those with two or more workers and those in which some members were unemployed.

Such earnings data, particularly for families, cannot conveniently be derived from the various surveys of establishments conducted by BLS. For instance, while the Current Employment Statistics survey (also known as the establishment survey) provides a large body of monthly data on employment and earnings by industry and geographic area, it yields no information on the distribution of earnings by such characteristics of the earners as age, race, or family status. With the increased demand for this type of data, BLS, beginning in January 1979, incorporated some questions on weekly and hourly earnings into the basic monthly CPS questionnaire. But because only one-quarter of the respondents in any one month are asked about their earnings, the resulting data are averaged over a 3-month period for publication of the weekly earnings on a quarterly basis.

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[1] The U.S. Bureau of the Census publishes numerous reports containing information from the CPS in its Current Population Reports (CPR series). For example, data on educational attainment and marital and family status are published in the P-20 (Population Characteristics) series of CPR. Statistics on earnings, other money income, non-cash benefits, and poverty status are published in the P-60 (Consumer Income) series of CPR. (See appendix A.)

Annual earnings. Information on annual earnings has been collected, along with data on other sources of income, since 1947 in a supplement to the CPS (currently in March). These earnings data can be linked to the number of weeks worked during the year and are thus particularly useful as indicators of the labor market situation and long-term earning power of the various population groups. In addition, these data are used to estimate the earnings of the various family members (for example, wives) as a share of total family income.

Survey concepts

Weekly and hourly earnings. Each month, the following questions are asked about every *wage and salary worker* in one-quarter of the households in the CPS sample:

> How many hours per week does . . . USUALLY work at this job?
>
> Is . . . paid by the hour on this job?

(If yes)

> How much does . . . earn per hour?
>
> How much does . . . USUALLY earn per week at this job BEFORE deductions? Include any overtime pay, commissions, or tips usually received.

Weekly and hourly earnings data are not obtained for self-employed workers—including those who have incorporated their businesses and thus are classified as wage and salary workers—because it is difficult to estimate the "usual" earnings of such workers and to distinguish any wage and salary component from other income associated with the businesses. In 1984, there were 92.1 million wage and salary workers, excluding the incorporated self-employed, of whom 54.1 million were paid hourly rates. Coverage of the CPS is nationwide, spanning all occupations and industries and both the private and public sectors. For persons holding more than one job, data refer only to the primary job—the one at which he or she worked the most hours during the reference week for the survey.

Instructions for the question on weekly earnings specify that any overtime pay, commissions, or tips *usually received* be included in the reported amount. The occasional receipt of such earnings are not to be included. The hourly earnings question asks only for the stated hourly wage rate; hence tips, commissions, and overtime pay are not included. Neither question elicits information about the value of any payments in kind or fringe benefits. Both questions pertain to gross earnings, that is, earnings before any deductions for taxes, insurance, union dues, etc.

The time to which the term "usual" applies—usual weekly hours, usual weekly earnings—is not specified in the survey. Thus, the reference period is determined by the respondent. If the respondent asks the enumerator for a definition of "usual," the latter is instructed to define the term as the number of hours worked or the earnings received during the majority of weeks over the past 4 or 5 months. On the other hand, the term "usual" is not included in the question on hourly earnings, since the purpose of the question is to obtain the current hourly rate.

Annual earnings. The earnings questions asked in the March supplement to the CPS refer to the amount of all wages, salaries, and profits or losses from self-employment received during the previous calendar year by workers living in the household at the time of the survey. Earnings are derived from the following three sources:

1. Money wages or salaries earned from work performed as an employee. These may consist of wages, salaries, commissions, tips, piece-rate payments, and cash bonuses. The questions focus on earnings before any deductions for personal income taxes or other reasons.
2. Net money income from nonfarm self-employment, that is, gross receipts minus expenses from an individual's own business, professional enterprise, or partnership.
3. Net money income from farm self-employment, namely, gross receipts minus expenses from the operation of a farm by an owner, renter, or sharecropper.

The questions used to obtain these annual earnings data are:

> How much did . . . earn from this employer before deductions during (the year)?

This question is asked of all wage and salary workers, including the incorporated self-employed, concerning the job held the greatest number of weeks during the year. For most wage and salary workers, a job is defined as all the time worked for the same employer. The exception is work for private households, which is counted as a single job regardless of the number of employers.

For the unincorporated self-employed, the following is asked:

> What was . . .'s net earnings from this business/farm after expenses during (the year)?

All respondents are then asked:

> Does this amount include all tips, bonuses, overtime pay, or commissions . . . may have received?
>
> Did . . . earn money from any other work he/she did during (the year)?
>
> How much did . . . earn from:
> All other employers?
> His/her own business after expenses?
> His/her own farm after expenses?

Since 1984, persons in the *civilian* noninstitutional population whose longest job was in the Armed Forces during the previous year have been included in BLS tabulations on annual earnings. Previously, the tabulations were limited to jobs held as a civilian.

Annual earnings questions are part of the larger series of supplemental questions asked in March on money income from sources such as Social Security, railroad retirement, supplemental security income, public assistance or welfare payments, interest, dividends, net rental income, veterans' payments, unemployment compensation, employee pensions, alimony, and child support. Money income does *not* include noncash benefits received by persons as part of their income, such as food stamps, subsidized housing, or the value of fringe benefits. Also, while the data refer to income in the previous year, the demographic characteristics of the person (such as age or family status) obtained at the same time refer to the time of the survey. The Bureau of the Census is the primary sponsor of the annual income data, publishing information on earnings and other sources of income in the *Current Population Reports*, Series P-60. (See appendix.) The BLS publishes annual earnings and some income data of a specialized nature, such as those relating to working wives and to the labor market problems of workers.

Processing the data

To develop usable estimates of average earnings for the population as a whole, the sample data collected in the CPS must undergo a series of processing procedures, which are performed for BLS by the Bureau of the Census.

Information collected from each interview is first checked to determine if the reported earnings are within a reasonable range and if entries contain all digits. Acceptable ranges for usual weekly earnings are based on both the occupation and the hours usually worked. For full-time workers, the floor is $20 to $30 a week (depending on occupation) and the ceiling is $999, the highest value which can be coded onto the present questionnaire. For part-time workers, the floor is $20, and ceilings range from $749 to $999 (again, depending on occupation). (Beginning in 1986, maximum machine-readable entries and range check ceilings will be raised.) In-range entries for hourly paid workers have a floor of 50 cents and ceilings from $29.99 to $99.99. Entries outside the specified range or with missing digits are treated as a nonresponse.

The next processing step is an editing procedure to either calculate missing data or assign a record to be allocated for nonresponse. Editing takes place if: (1) there is no response to the usual weekly earnings question, but there are entries for usual hours worked and hourly earnings (The product of the two is then given a range check; a valid result is entered as the usual weekly earnings.); (2) there is no entry to the question on whether the worker is paid an hourly rate, but an hourly rate is entered on the questionnaire; or (3) the worker is reported to be paid an hourly rate, but no value has been reported. (The reported usual weekly earnings value is divided by the number of hours usually worked, the quotient is given a range check, and a valid result is entered as hourly earnings.)

Out-of-range items and blank items which cannot be filled in during the editing stage are allocated. For a person with no entry for an item, allocation is performed by matching his or her record with that of a person of similar demographic and other characteristics who has an entry for the item in question. The value on the donor record is then inserted onto the record requiring allocation. This procedure has long been used in processing most other data series from the CPS as well as in the processing of the decennial censuses. The computer program for the processing of the weekly and hourly earnings data contains four levels of allocation, with the highest level—a level-1 match—having the largest number of characteristics for matching the two records, and the lowest level—a level-4 match—having the least number of characteristics. There are 12 characteristic items used in determining a level-1 match, while a level-4 match has only four characteristic items.

If the characteristics of a worker whose earnings entries require allocation do not match anyone at level 1 for whom valid earnings information has been reported, an attempt is made for a match at the next level. Upon a failure to match at level 2, successive levels are tried until a match is found. For the very few cases in which a record requiring allocation could not be matched with a donor record at any level, values approximating earnings averages for recent months are inserted for the missing items. During the first 4 years (1979–82) of collecting these data, the proportion of weekly earnings items which had to be allocated for full-time workers averaged 16.2 percent. The allocation rate for those paid by the hour averaged somewhat less—12.9 percent.

The next processing step is the estimation procedure.

This procedure weights the data from each sample person to the number of people that person represents in the population. The basic weight, which is the inverse of the probability of the person being in the sample, is only a rough measure of this representation. Basic weights must be adjusted for noninterview and to account for the fact that the distribution of the population selected for the sample may differ somewhat (by chance) from that of the population as a whole, by characteristics such as age, race, sex, and residence. The weighting procedure requires that the sum of sample weights agree with independent estimates of the civilian noninstitutional population by age, race, and sex based on statistics from decennial censuses; statistics on births, deaths, immigration, and emigration; and statistics on the strength of the Armed Forces. The estimation procedure for family data also involves a further adjustment so that the husband and wife of a household receive the same weight. Since the weekly and hourly earnings data are collected from only one-quarter of the CPS sample households, weights for these items are roughly four times the weight for full-sample items. Detailed information on CPS estimation methods is published in *BLS Handbook of Methods, Employment and Earnings*, and Bureau of the Census publications, such as *Current Population Reports*, Series P-60.

Reliability of the data

Sampling error. In any sample survey, variations in the data can occur by chance because a sample rather than the entire population is surveyed. A measure of this variation is called the standard error. The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 95 out of 100 that it would be less than twice the standard error, and about 99 out of 100 that it would be less than 2½ times the standard error. All statements of comparison appearing in the text of BLS publications with CPS earnings data are significant at the 90-percent level (1.6 standard errors).

If other factors are held constant, the relative size of the standard error is inversely related to the number of persons sampled. Since only one-quarter of the wage and salary workers in the monthly sample are asked the weekly and hourly earnings questions, the standard error is relatively large and publication of the earnings data on a monthly basis is not deemed advisable. Similarly, quarterly and annual average data on weekly and hourly earnings—as well as the full-sample data from the March supplement—covering small population groups may be subject to relatively large standard errors. Thus, the user is cautioned against drawing conclusions from relatively small differences among numbers for small population groups without first examining the standard errors for these estimates.

Because of the large standard errors associated with small numbers, measures of weekly and hourly earnings derived from a base of fewer than 100,000 persons for the quarterly data and fewer than 50,000 for the annual average data are not shown. The minimum base for publishing specific detail from the annual earnings data is 75,000. There is little chance that summary measures based on smaller numbers would reveal any useful information.[2]

Nonsampling error. In any survey, results also are subject to errors of response and nonreporting in addition to sampling variability. Such nonsampling errors can be attributed to failure to represent all households within the sample or all persons within sample households (undercoverage), differences in the interpretation of questions, inability or unwillingness on the part of respondents to provide accurate information, a tendency of respondents to provide rounded numbers, errors made in collection such as in recording or coding the data, errors made in processing the data, and errors made in estimating values for missing data (allocation).

The standard errors provided with published data on earnings relate primarily to the magnitude of the sampling error; however, they also partially measure the effect of some nonsampling errors in response and enumeration. They do not measure any systematic biases in the data. An example of a systematic bias would be the reporting of after-tax, rather than gross, earnings—a systematic downward bias. The full extent of nonsampling error is unknown.

The error due to the misreporting of earnings is difficult to quantify. Obviously, in many cases, a respondent's memory serves as the only source of earnings information. With respect to annual earnings data, the Bureau of the Census attempts to minimize the error associated with faulty memories by scheduling the collection of income in the month of March. Since the deadline for filing income tax returns is less than a month away, respondents should be more familiar with their own and other household members' previous year's earnings than in other months.

Asking for usual weekly hours and earnings instead of hours and earnings for a specific week reduces the risk of obtaining data which, because of sudden fluctuations in hours and earnings (such as might be produced by bad weather, illness, vacation, a holiday, or special overtime work), would not represent the typical earnings pattern. It also permits the collection of data for people who are employed but not at work during the reference week. Moreover, a person supplying information for other members of the household is more likely to know the usual amount of weekly earnings or hours than the actual amounts in a given week. On the other hand, for those workers paid hourly rates, the term "usual" is not used since respondents are likely to be familiar with the current hourly rate of pay.

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[2] See Earl F. Mellor, *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey*, Bulletin 2113, Bureau of Labor Statistics, 1982.

A special test to gauge the accuracy of the reporting of earnings data in the CPS conducted in 1977, revealed a difference of 3 percent between the earnings reported by a subsample of workers and the earnings reported by their employers. There were, however, relatively larger differences between the two sets of data in specific earnings intervals, particularly at the low end of the earnings distribution. Also, as might be expected, the difference between the two sets of data was greater where the household information was obtained from proxy respondents (such as a wife reporting her husband's and daughter's earnings) than where it was obtained from the workers themselves. Probably because the earnings of men are more likely to be obtained from proxy respondents, the average difference in their earnings, relative to the amount reported by employers, was somewhat greater than that for women.[3]

The degree of underreporting or overreporting of annual earnings can be estimated by comparing the CPS data with aggregate estimates of earnings from other sources, such as the Bureau of Economic Analysis (BEA). One such comparison, using 1983 BEA estimates adjusted to CPS income concepts, showed that aggregate wage and salary earnings from the CPS were 99 percent of the estimates obtained through other sources.

Major BLS products

The CPS provides a large amount of detail on the income and earnings of the population. Some data are available through the Bureau's regular publications program; some data are unpublished; and some are available on computer tapes.

Usual weekly earnings, published series. BLS publishes two quarterly news releases on weekly earnings, "Weekly Earnings of Wage and Salary Workers" and "Employment and Earnings Characteristics of Families."[4] Data on individuals include the median earnings of full-time and part-time workers by sex, age, race, Hispanic origin, and family relationship. In addition, the median earnings of full-time workers are cross-tabulated by sex and occupation. (See figures 4-1 and 4-2.) Median weekly earnings of families are shown by type of family, number and family relationship of earners, race, and Hispanic origin. (See figure 4-3.) Additional data include the median earnings of families with unemployed members.

Beginning in 1985, annual average data from 1983 forward on the median usual weekly earnings of full-time workers by union affiliation, tabulated by age, sex, race, Hispanic origin, occupation, and major industry group, are published in the January issue of *Employment and Earnings*.

Occasional articles on earnings appear in the *Monthly Labor Review*. Recent articles have focused on median weekly earnings for detailed occupations and on earnings differences between men and women. (A list of selected articles appears at the end of this chapter.)

Usual weekly and hourly earnings, unpublished data. The Bureau maintains unpublished tabulations from 1979 through the present on the annual average weekly earnings of full-time (and, in some cases, part-time) workers by characteristics such as age, occupation, industry and class of worker, marital status, years of school completed, usual hours worked, and region. These series are not cross-tabulated with each other, but all are available by sex, and some are also tabulated separately for whites, blacks, and Hispanics. The unpublished data include earnings distributions in addition to the medians and their standard errors. While quarterly data are available for some of these items, they generally are less detailed, since quarterly estimates are based on fewer sample cases and are less reliable than the annual average data.

For many of the series, BLS also has data on the hourly earnings of workers paid hourly rates. Beginning with information for 1983, annual average figures are available showing the number of hourly paid workers who are at or below the prevailing Federal minimum wage.

Unpublished tabulations also exist for many of the CPS series covering the 1973–78 period and for a few items on weekly earnings back to 1967. However, data prior to 1979 are not strictly comparable with those for recent years as a result of changes in questionnaire design, the current exclusion of the incorporated self-employed from the earnings universe, the shift from once a year to monthly collection beginning in 1979, and differences in the handling of nonresponses.

Two additional changes affecting comparability were introduced in 1983 and 1985: (1) The occupational classification system was changed in 1983 to conform to the new system developed as part of the 1980 decennial census, affecting all occupational comparisons. (2) Prior to 1983, median earnings were estimated using the linear interpolation of $50 to $100 uncentered intervals. From 1983 through the first quarter of 1985, medians were estimated using $10 uncentered intervals. This change was introduced to reduce a systematic upward bias resulting from the use of wider uncentered intervals for earnings data subject to a high incidence of rounding by CPS respondents. In the second quarter of 1985, the procedure was changed back to $50-wide intervals, but these were centered around multiples of $50. This procedure lessens the sometimes erratic movements in medians caused by having a large number of narrow intervals. For example, a $10 interval with a rounded amount may have many more observations than adjoining intervals. It also minimizes still further the upward bias of median estimates.

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[3] For more information on this test, see "Comparing Earnings Data from the CPS and Employer Records," by Larry Carstensen and Henry Woltman of the Bureau of the Census, in American Statistical Association, *Proceedings of the Social Statistics Section, 1979*, pp. 168–173.

[4] Most of the earnings data in the two releases are also published in the January, April, July, and October issues of *Employment and Earnings*. Between 1979, when the weekly earnings data first became available on a quarterly basis, and 1984, similar information on the earnings of both individuals and families was published in the news release series, "Earnings of Workers and Their Families."

Annual earnings and income, published series. As indicated earlier, the Bureau of the Census has the principal responsibility for publishing annual income data from the CPS in *Current Population Reports*, Series P-60. The BLS, however, publishes annual income data as well, in conjunction with certain special analytical endeavors. For the past several years, the Bureau has published a report that analyzes data on annual earnings and other sources of money income in relation to employment-related problems of workers. The first report was for 1979. This report, *Linking Employment Problems to Economic Status*, assesses the extent of labor market hardship among U.S. workers and relates it to the economic well-being of their families (figures 4-4 through 4-6).

In the past several years, BLS also has published earnings and income information from the March CPS as part of its annual report on the work experience of the population during the preceding year. For example, the report on employment and unemployment during 1983 contains information on the relationship between unemployment and family income.

Annual earnings and income, unpublished series. One series of BLS unpublished tabulations from the March CPS focuses on the marital and family characteristics of workers and includes data on earnings in the previous calendar year of all married women (and of those who worked year round, full time) cross-tabulated by race, their husband's earnings, and the presence and age of children. Also available are earnings data by marital status, years of school completed, and race. Additional tables show the number of earners in the family and the contribution to family income made by wives and by women who maintain families. Some of these tabulations first became available with release of the March 1959 CPS, but most have been tabulated only since March 1976.

Other unpublished tabulations from the March CPS contain earnings data for various "work experience" items. Included in this series of four tables are annual earnings distributions, medians, and means tabulated by such items as the number of weeks worked, weeks unemployed, and whether workers usually worked full time or part time during the previous year. These tables present the data cross-classified by sex and race, and, in some cases, Hispanic origin and age as well. (Some of these data are published by the Bureau of the Census in its *Current Population Reports*, Series P-60.) Among tabulations of educational attainment are two earnings tables which present earnings distributions, medians, and means for year-round full-time workers who were wage and salary workers on the longest job, cross-classified by occupation, years of school completed, age, race, and Hispanic origin.

Computer tapes. Machine-readable tapes with the individual respondents' answers to all the basic and supplemental CPS questions are available for purchase from BLS. These tapes do not show any information which could identify respondents, but they do permit users to prepare tables for their particular needs and to utilize statistical techniques, for example, multiple regression, on a large number of observations. For additional information on the content and availability of these tapes, inquiries should be directed to Office of Employment and Unemployment Statistics, Division of Data Development and Users' Services, Bureau of Labor Statistics, Washington, D.C. 20212.

Uses and limitations

As noted earlier, the data on earnings from the CPS are particularly useful because they can be linked with a variety of demographic and socioeconomic characteristics. For example, earnings can be cross-tabulated by age, race, and occupation; or the earnings of husbands and wives can be compared by family size and type.

Some differences between the weekly (and hourly) and the annual earnings should be noted. The weekly data, of course, are much more timely than the annual data obtained in March, as they are available four times a year—about 1 month following the close of the quarter. Annual earnings are usually available in the summer following the reference year. Since the weekly and hourly earnings questions are on each month's questionnaire, a large number of sample cases can be accumulated over the year to permit detailed annual average tabulations (about 180,000 records on full-time wage and salary workers). On the other hand, information on all sources of income, including earnings from all jobs—not only the primary job—is collected in the March survey. Thus, annual earnings can be related to other components of money income (for the individual and his or her family) and to data on the work experience of persons that are also collected in March.

The use of a household survey to obtain earnings statistics has its limitations. Because survey results must be timely, and collection and processing costs held to a minimum, the sample size must be small enough to enable the publication of basic employment and unemployment data within a few weeks of the survey reference week. Such a sample size precludes the tabulation of earnings data by the geographic and industrial detail, for example, that an establishment survey can provide. One household respondent provides figures for only one or a few people, while one establishment respondent may give out aggregate payroll data on hundreds or thousands of workers.

Whereas the CPS affords users of earnings data the advantage of demographic detail, it is important to recognize that, as the level of detail is increased, the number of sample cases on which estimates of earnings, their medians, and means are based (and the size of individual cells in earnings distributions) decreases. This, in turn, reduces the reliability of the estimates, especially for small groups. In 1984, for example, while the standard error of the median usual weekly earnings (annual averages) of all full-time workers was only 60 cents, the standard error of the median for Hispanic men with 4 years of college or more was over $23.

Year-to-year changes in the median earnings of specific groups may not necessarily be consistent with movements estimated for the overall median. This occurs because of the following circumstances: (1) Survey observations tend to be clustered at rounded values—e.g., $250, $300, $400—and thus an estimated median lying in a $50 interval with such a cluster changes more slowly than one in a non-clustered interval. Therefore, if the medians for component groups are not in a cluster but the overall median is, then the increase in the overall median will be less than for its components. (2) If a lower-earning group accounts for a sufficiently increased share of the total, the relative weights of the subgroups could change. The overall median could then rise less than for any of the groups.

In addition, many respondents are reluctant to reveal information about their earnings, and some refuse to provide the data (or underreport them). Since the characteristics of respondents who do not report earnings may be different from those who report, the data may be subject to biases for which the allocation process described earlier cannot fully compensate. Also, the CPS interviewer may speak with only one member of the household, who may not be able to report the earnings of others as accurately as his or her own earnings.

While earnings data from the Current Population Survey have their limitations, they, nevertheless, remain the principal means of providing the Nation with earnings statistics in combination with demographic detail. Data collected from employer records generally do not provide any earnings information for specific population groups and, given the nature of present recordkeeping systems, the costs and burdens employers would be faced with to collect demographic data make such a possibility quite remote.

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Figure 4.1

Table 1. Median usual weekly earnings of full-time wage and salary workers by selected characteristics, quarterly averages, not seasonally adjusted

Characteristic	Number of workers (in thousands)		Median weekly earnings			
			In current dollars		In constant (1977) dollars	
	II 1984	II 1985	II 1984	II 1985	II 1984	II 1985
SEX AND AGE						
Total, 16 years and over	74,728	76,834	$323	$347	$189	$196
Men, 16 years and over	44,530	45,635	388	408	228	230
16 to 24 years	7,319	7,074	227	241	133	136
25 years and over	37,211	38,561	420	446	246	252
Women, 16 years and over	30,199	31,199	263	280	154	158
16 to 24 years	5,479	5,529	204	212	120	120
25 years and over	24,720	25,670	281	300	165	169
FAMILY RELATIONSHIP						
Husbands	29,813	30,139	424	458	249	259
Wives	15,706	16,114	271	290	159	164
Women who maintain families	4,237	4,292	264	282	155	160
Men who maintain families	1,185	1,392	390	397	229	225
Other persons in families:						
Men	6,043	6,126	224	240	131	136
Women	4,083	4,388	208	215	122	121
All other men[1]	7,490	7,978	363	375	213	212
All other women[1]	6,171	6,404	291	310	170	175
RACE, HISPANIC ORIGIN, AND SEX						
White	64,876	66,402	333	357	195	202
Men	39,296	40,109	397	418	233	236
Women	25,580	26,292	266	283	156	160
Black	7,928	8,312	267	284	157	160
Men	4,203	4,340	301	303	176	171
Women	3,725	3,972	240	264	140	149
Hispanic origin	(2)	5,134	(2)	274	(2)	155
Men	(2)	3,383	(2)	295	(2)	166
Women	(2)	1,750	(2)	240	(2)	135

[1] The majority of these persons are living alone or with nonrelatives. Also included are persons in married-couple families where the husband or wife is in the Armed Forces and persons in unrelated subfamilies.

[2] Data on Hispanic wage and salary earners for 1984 are not available on a revised basis that reflects the adjustments to the population totals introduced in January 1985.

NOTE: Data on median weekly earnings are now derived using $50 centered intervals rather than the $10 intervals previously used; data for 1984 have been recalculated. Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

SOURCE: BLS New Release, "Weekly Earnings of Wage and Salary Workers: Second Quarter 1985," USDL 85-340, August 29, 1985.

Figure 4-2

Table 3. Median usual weekly earnings of full-time wage and salary workers by occupation and sex, quarterly averages, not seasonally adjusted

Occupation and sex	Number of workers (in thousands)		Median weekly earnings	
	II 1984	II 1985	II 1984	II 1985
TOTAL				
Managerial and professional specialty	18,572	19,288	$458	$487
Executive, administrative, and managerial	8,610	9,126	476	494
Professional specialty	9,961	10,162	445	483
Technical, sales, and administrative support	22,356	23,456	295	309
Technicians and related support	2,642	2,677	385	395
Sales occupations	6,768	7,237	315	341
Administrative support, including clerical	12,946	13,542	275	288
Service occupations	7,606	7,830	215	219
Private household	340	295	138	138
Protective service	1,424	1,406	356	386
Service, except private household and protective	5,842	6,129	203	206
Precision production, craft, and repair	10,577	10,982	384	401
Mechanics and repairers	3,697	3,948	389	403
Construction trades	3,210	3,331	385	397
Other precision production, craft, and repair	3,670	3,703	379	403
Operators, fabricators, and laborers	14,199	13,932	283	294
Machine operators, assemblers, and inspectors	7,394	7,035	273	287
Transportation and material moving occupations	3,594	3,725	336	359
Handlers, equipment cleaners, helpers, and laborers	3,211	3,172	251	252
Farming, forestry, and fishing	1,418	1,345	200	202
Men				
Managerial and professional specialty	10,747	10,981	546	580
Executive, administrative, and managerial	5,622	5,673	566	586
Professional specialty	5,125	5,308	530	573
Technical, sales, and administrative support	8,469	8,854	401	424
Technicians and related support	1,554	1,531	443	467
Sales occupations	4,090	4,329	400	440
Administrative support, including clerical	2,825	2,994	375	397
Service occupations	3,867	3,889	266	276
Private household	8	11	(1)	(1)
Protective service	1,296	1,252	356	392
Service, except private household and protective	2,563	2,626	231	236
Precision production, craft, and repair	9,622	10,160	397	411
Mechanics and repairers	3,539	3,803	391	403
Construction trades	3,179	3,289	386	399
Other precision production, craft, and repair	2,903	3,067	413	432
Operators, fabricators, and laborers	10,546	10,555	316	323
Machine operators, assemblers, and inspectors	4,377	4,353	331	339
Transportation and material moving occupations	3,414	3,551	342	370
Handlers, equipment cleaners, helpers, and laborers	2,756	2,651	263	262
Farming, forestry, and fishing	1,279	1,196	203	204
Women				
Managerial and professional spcialty	7,825	8,307	375	404
Executive, administrative, and managerial	2,988	3,453	355	389
Professional specialty	4,837	4,854	384	412

See footnotes at end of table.

Figue 4-2

Table 3. Continued—Median usual weekly earnings of full-time wage and salary workers by occupation and sex, quarterly averages, not seasonally adjusted

Occupation and sex	Number of workers (in thousands)		Median weekly earnings	
	II 1984	II 1985	II 1984	II 1985
Women—Continued				
Technical, sales, and administrative support	13,887	14,602	$258	$270
Technicians and related support	1,088	1,146	308	331
Sales occupations	2,678	2,908	215	223
Administrative support, including clerical	10,121	10,549	261	272
Service occupations	3,739	3,941	185	188
Private household	332	284	136	135
Protective service	129	154	346	292
Service, except private household and protective	3,279	3,502	188	191
Precision production, craft, and repair	956	823	262	272
Mechanics and repairers	158	145	309	382
Construction trades	31	43	(1)	(1)
Other precision production craft, and repair	766	635	252	261
Operators, fabricators, and laborers	3,653	3,377	206	219
Machine operators, assemblers, and inspectors	3,018	2,682	204	219
Transportation and material moving occupations	160	174	250	252
Handlers, equipment cleaners, helpers, and laborers	455	520	203	210
Farming, forestry, and fishing	139	149	178	180

[1] Data not shown where base is less than 100,000.

NOTE: Data on median weekly earnings are now derived using $50 centered intervals rather than the $10 intervals previously used; data for 1984 have been recalculated.

SOURCE: BLS News Release, "Weekly Earnings of Wage and Salary Workers: Second Quarter 1985," USDL 85-340, August 29, 1985.

Figure 4.3

Table 6. Families with wage and salary earners by race, Hispanic origin, type of family, and median usual weekly wage and salary earnings, quarterly averages, not seasonally adjusted

(Numbers in thousands)

Characteristic	Number of families		Percent distribution		Median weekly earnings	
	II 1984	II 1985	II 1984	II 1985	II 1984	II 1985
TOTAL						
Families with wage or salary earners[1]	40,643	41,342	100.0	100.0	$495	$526
One earner	18,811	18,968	46.3	45.9	324	336
Two or more earners	21,832	22,374	53.7	54.1	651	696
Married-couple families	32,782	33,091	100.0	100.0	543	587
One earner	13,472	13,432	41.1	40.6	373	386
Husband	10,642	10,414	32.5	31.5	419	442
Wife	2,145	2,239	6.5	6.8	203	219
Other family member	684	779	2.1	2.4	190	200
Two or more earners	19,310	19,659	58.9	59.4	675	719
Husband and wife only	13,420	13,707	40.9	41.4	641	690
Husband, wife, and other family member(s)	3,113	3,200	9.5	9.7	880	927
Husband and other family member(s)	2,104	2,049	6.4	6.2	671	688
Wife and other family member(s)	523	506	1.6	1.5	406	484
Other family members only	151	196	.5	6	372	436
Families maintained by women	6,344	6,508	100.0	100.0	280	302
One earner	4,397	4,419	69.3	67.9	230	239
Householder	3,487	3,404	55.0	52.3	234	249
Other family member	910	1,015	14.3	15.6	214	196
Two or more earners	1,947	2,089	30.7	32.1	438	487
Families maintained by men	1,517	1,742	100.0	100.0	428	468
One earner	942	1,117	62.1	64.1	348	361
Householder	745	886	49.1	50.8	384	395
Other family member	197	231	13.0	13.3	215	217
Two or more earners	575	625	37.9	35.9	605	658
White						
Families with wage or salary earners[1]	35,153	35,712	100.0	100.0	509	546
One earner	16,071	16,242	45.7	45.5	345	358
Two or more earners	19,081	19,470	54.3	54.5	661	704
Married-couple families	29,315	29,544	100.0	100.0	550	593
One earner	12,191	12,196	41.6	41.3	381	396
Husband	9,786	9,618	33.4	32.6	424	452
Wife	1,803	1,893	6.2	6.4	205	221
Two or more earners	17,124	17,348	58.4	58.7	681	723
Husband and wife only	11,828	12,131	40.3	41.1	648	693
Families maintained by women	4,606	4,743	100.0	100.0	299	316
One earner	3,119	3,137	67.7	66.1	243	250
Two or more earners	1,487	1,606	32.3	33.9	450	496
Families maintained by men	1,232	1,425	100.0	100.0	452	485
One earner	761	908	61.8	63.8	368	378
Two or more earners	471	516	38.2	36.2	615	659
Black						
Families with wage or salary earners[1]	4,532	4,542	100.0	100.0	368	391
One earner	2,347	2,273	51.8	50.0	230	233
Two or more earners	2,185	2,269	48.2	50.0	555	611
Married-couple families	2,677	2,670	100.0	100.0	464	500
One earner	994	906	37.1	33.9	263	248
Husband	648	550	24.2	20.6	330	278
Wife	281	285	10.5	10.7	(2)	(2)
Two or more earners	1,683	1,765	62.9	66.1	598	667
Husband and wife only	1,261	1,210	47.1	45.3	580	637
Families maintained by women	1,595	1,598	100.0	100.0	235	259
One earner	1,182	1,182	74.1	73.9	203	209
Two or more earners	413	416	25.9	26.1	392	466
Families maintained by men	260	274	100.0	100.0	361	358
One earner	172	186	66.1	67.9	285	297
Two or more earners	88	88	33.9	32.1	(2)	(2)

See footnote at end of table.

Figure 4.3

Table 6. Continued—Families with wage and salary earners by race, Hispanic origin, type of family, and median usual weekly wage and salary earnings, quarterly averages, not seasonally adjusted

(Numbers in thousands)

Characteristic	Number of families		Percent distribution		Median weekly earnings	
	II 1984	II 1985	II 1984	II 1985	II 1984	II 1985
Hispanic origin						
Families with wage or salary earners[1]	(3)	2,869	(3)	100.0	(3)	$393
One earner	(3)	1,546	(3)	53.9	(3)	267
Two or more earners	(3)	1,324	(3)	46.1	(3)	552
Married-couple families	(3)	2,155	(3)	100.0	(3)	432
One earner	(3)	1,065	(3)	49.4	(3)	286
Husband	(3)	873	(3)	40.5	(3)	310
Wife	(3)	127	(3)	5.9	(3)	193
Two or more earners	(3)	1,090	(3)	50.6	(3)	580
Husband and wife only	(3)	707	(3)	32.8	(3)	566
Families mainained by women	(3)	483	(3)	100.0	(3)	253
One earner	(3)	345	(3)	71.4	(3)	202
Two or more earners	(3)	138	(3)	28.6	(3)	420
Families maintained by men	(3)	231	(3)	100.0	(3)	360
One earner	(3)	136	(3)	58.8	(3)	280
Two or more earners	(3)	95	(3)	41.2	(3)	(2)

[1] Excludes families where the husband, wife, or householder is self-employed.

[2] Data not shown where base is less than 100,000.

[3] Data on Hispanic families for 1984 are not available on a revised basis that reflects the adjustments to the population totals introduced in January 1985.

NOTE: Data on families for 1984 reflect revised editing and weighting procedures and may differ slightly from previously published data. Moreover, data on median weekly earnings are now derived using $50 centered intervals rather than the $10 intervals previously used; data for 1984 have been recalculated. Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

SOURCE: BLS News Release, Employment and Earnings Characteristics of Families: Second quarter 1985, USDL 85-337, August 21, 1985.

Figure 4.4

Table 9. Earnings distribution of year-round full-time workers by sex, race, and Hispanic origin, 1983

(Numbers in thousands)

Characteristic	Total	With earnings of -						Median earnings
		Under $6,700	$6,700-$9,999	$10,000-$14,999	$15,000-$19,999	$20,000-$24,999	$25,000 and over	
Total	66,828	4,453	6,511	14,009	12,546	9,536	19,773	$18,169
Men	41,540	2,233	2,576	6,076	6,949	6,644	17,061	21,921
Women	25,288	2,220	3,935	7,933	5,597	2,891	2,712	13,906
White	58,858	3,858	5,273	11,910	10,968	8,546	18,303	18,700
Men	37,285	1,954	2,055	5,173	6,159	6,001	15,943	22,511
Women	21,573	1,904	3,216	6,737	4,809	2,545	2,360	14,054
Black	6,305	464	1,081	1,756	1,321	713	970	14,432
Men	3,284	217	453	781	655	459	718	15,934
Women	3,021	247	628	975	666	254	252	12,872
Hispanic origin	3,502	315	562	1,008	691	393	533	14,223
Men	2,202	150	267	558	458	305	464	16,152
Women	1,301	165	296	449	233	88	69	11,770

SOURCE: *Linking Employment Problems to Economic Status*, BLS Bulletin 2222, March 1985

Figure 4.5

Table 10. Earnings distribution of year-round full-time workers by age, sex, race, and Hispanic origin, 1983

Characteristic	Men						Women					
	Total (thousands)	Percent distribution				Median earnings	Total (thousands)	Percent distribution				Median earnings
		Total	Under $6,700	$6,700-$9,999	$10,000 and over			Total	Under $6,700	$6,700-$9,999	$10,000 and over	
All year-round full-time workers												
Total	41,540	100.0	5.4	6.2	88.4	$21,921	25,288	100.0	8.8	15.6	75.7	$13,906
Age:												
16 to 19	393	100.0	32.4	29.5	38.1	8,331	313	100.0	38.5	32.3	29.1	7,412
20 to 24	3,599	100.0	10.2	19.7	70.0	12,800	3,019	100.0	11.9	27.3	60.8	10,872
25 to 54	31,257	100.0	4.0	4.5	91.5	23,306	18,658	100.0	7.3	13.2	79.4	14,818
55 to 64	5,490	100.0	5.5	4.9	89.6	24,193	2,920	100.0	9.4	15.9	74.7	13,948
65 and over	801	100.0	22.7	9.7	67.6	16,951	378	100.0	27.3	19.5	53.2	11,090
White												
Total	37,285	100.0	5.2	5.5	89.2	22,511	21,573	100.0	8.8	14.9	76.3	14,054
Age:												
16 to 19	359	100.0	33.9	26.7	39.4	8,496	295	100.0	38.9	31.3	29.8	7,409
20 to 24	3,208	100.0	10.1	17.4	72.5	13,138	2,707	100.0	11.3	26.5	62.2	10,991
25 to 54	27,923	100.0	3.8	4.0	92.2	23,879	15,679	100.0	7.5	12.7	79.9	14,972
55 to 64	5,065	100.0	5.2	4.4	90.4	24,785	2,552	100.0	9.0	14.0	77.0	14,420
65 and over	730	100.0	23.4	9.6	67.0	17,001	339	100.0	24.6	18.9	56.5	12,172
Black												
Total	3,284	100.0	6.6	13.8	79.6	15,934	3,021	100.0	8.2	20.8	71.1	12,872
Age:												
16 to 19	28	100.0	(1)	(1)	(1)	(1)	13	100.0	(1)	(1)	(1)	(1)
20 to 24	319	100.0	11.7	41.1	47.2	$9,733	266	100.0	18.6	34.3	47.1	$9,717
25 to 54	2,546	100.0	5.4	10.1	84.5	17,380	2,397	100.0	5.7	17.7	76.6	13,766
55 to 64	337	100.0	10.1	12.5	77.4	14,698	311	100.0	12.5	30.8	56.7	10,780
65 and over	54	100.0	(1)	(1)	(1)	(1)	34	100.0	(1)	(1)	(1)	(1)
Hispanic origin												
Total	2,202	100.0	6.8	12.1	81.1	$16,152	1,301	100.0	12.7	22.7	64.6	$11,770
Age:												
16 to 19	33	100.0	(1)	(1)	(1)	(1)	32	100.0	(1)	(1)	(1)	(1)
20 to 24	256	100.0	13.6	21.7	64.6	$11,463	183	100.0	18.9	30.7	50.5	$10,030
25 to 54	1,701	100.0	5.3	10.0	84.7	17,339	966	100.0	10.6	20.1	69.4	12,505
55 to 64	192	100.0	7.3	11.0	81.7	17,654	112	100.0	15.7	32.8	51.5	10,217
65 and over	19	100.0	(1)	(1)	(1)	(1)	8	100.0	(1)	(1)	(1)	(1)

[1] Data not shown where base is less than 75,000

SOURCE: *Linking Employment Problems to Economic Status*, BLS Bulletin 2222, March 1985

Figure 4-6

Table B-3. Earnings distribution of year-round full-time workers by family status, family income, and poverty status, 1983

(Numbers in thousands)

Characteristic	Total	With personal earnings of -						Median personal earnings[1]
		Under $6,700			$6,700 to $9,999	$10,000 to $14,999	$15,000 and over	
		Total	Under $3,000	$3,000 to $6,699				
All persons 16 and over								
Total[1]	66,828	4,453	1,645	2,808	6,511	14,009	41,855	$18,169
Family income[2]								
Under $5,000	862	832	623	210	13	17	-	857
$5,000 to $9,999	2,629	980	204	776	1,598	40	11	7,368
$10,000 to $14,999	5,789	635	191	444	940	4,189	25	11,283
$15,000 to $19,999	7,285	493	155	338	928	1,735	4,129	15,394
$20,000 to $24,999	7,837	375	99	276	783	1,749	4,930	18,200
$25,000 and over	42,426	1,138	373	765	2,249	6,280	32,759	23,771
Below poverty level:								
Total	2,065	1,359	746	612	442	249	15	5,003
Percent	3.1	30.5	45.4	21.8	6.8	1.8	-	-
Below 1.25 poverty level:								
Total	3,418	1,825	836	989	888	642	62	$6,370
Percent	5.1	41.0	50.8	35.2	13.6	4.6	.1	-
Below 1.50 poverty level:								
Total	5,264	2,167	939	1,228	1,530	1,251	317	$7,386
Percent	7.9	48.7	57.1	43.7	23.5	8.9	.8	-
Below 2.00 poverty level:								
Total	10,035	2,660	1,076	1,584	2,899	2,912	1,565	$9,374
Percent	15.0	59.7	65.4	56.4	44.5	20.8	3.7	-
Median family income	$30,785	$13,072	$9,854	$14,680	$18,766	$23,019	$36,189	-

Stub is repeated for:

Husbands

Wives

Others in married-couple families

Women who maintain families

Others in families maintained by women

Men who maintain families

Others in families maintained by men

All other men

All other women

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[1] Earnings are defined as all money income from wages, salaries, and profits or losses from self-employment.

[2] Personal income for "all other" men and women.

NOTE: Dash represents zero or rounds to zero.

SOURCE: *Linking Employment Problems to Economic Status*, BLS Bulletin 2222, March 1985.

Chapter 5. Wages of Workers Covered by Unemployment Insurance Programs

The Employment and Wages program, commonly called the ES-202 program, is a cooperative endeavor of BLS and the employment security agencies of the 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands. Using quarterly unemployment insurance tax reports submitted by employers, the States summarize employment and wage data by industry and county for all full- and part-time workers covered by their State unemployment insurance (UI) laws and for civilian workers covered by the program of Unemployment Compensation for Federal Employees (UCFE). These summaries, known as ES-202 Reports, are aggregated by BLS to provide national data on employment and wages.

The program is a comprehensive and accurate source of employment and wage data, by industry, at the national, State, and county levels. It provides a virtual census of nonagricultural employees and their wages. In addition, about 40 percent of workers in agriculture are covered.

Background

The number of workers covered by unemployment insurance laws has increased dramatically since 1938 when the first data on employment and wages of covered workers were issued. In 1938, Federal law applied only to firms employing at least eight persons for a minimum of 20 weeks in a calendar year and excluded such workers as government employees, agricultural laborers, and domestic workers in private homes. (Some State laws did cover firms employing fewer than eight workers.)

Amendments to the Social Security Act extended coverage to Federal civilian employees on January 1, 1955, and to workers in firms employing from four to seven workers on January 1, 1956. Federal legislation, effective January 1, 1972, extended coverage of State unemployment insurance systems in 28 States to firms employing one worker or more and expanded other statutory coverage provisions. The remaining States had previously extended coverage to these small employers. In 1975, legislation also brought coverage to employees of State hospitals, colleges, and universities.

The Federal Unemployment Compensation Amendments of 1976 incorporated major changes in State UI laws effective January 1, 1978. Under these amendments, States expanded coverage to include nearly all remaining State and local government employees, employees of nonprofit elementary and secondary schools, and many agricultural and domestic workers. Some States began implementing the amendments as early as 1976. The amendments also brought the Virgin Islands under the UI system.

It is important for anyone using historical ES-202 data to be aware of all of these changes in coverage. Large shifts in data from one time period to another may be the result of coverage changes rather than any economic phenomena. Some time series analyses using ES-202 data may not be possible because the data from the two time periods may not be comparable.

Survey concepts and outputs

Included among the data collected through the Employment and Wages program are total wages (quarterly), taxable wages (quarterly), unemployment insurance contributions (quarterly), employment (monthly), and number of reporting units (quarterly). These data series are described in the following paragraphs.

Total wages. Covered employers in most States report total compensation paid during the calendar quarter, regardless of when services are performed. A few State laws, however, specify that wages be reported or based on when services are performed rather than when compensation is paid. Under most State laws or regulations, wages include bonuses, the cash value of meals and lodging, and tips and other gratuities.

Employer contributions for old-age, survivors, disability, and health insurance (OASDHI), unemployment insurance, workers' compensation, and private pension and welfare funds are not reported as wages. On the other hand, employee contributions for the same purposes, as well as money withheld for income taxes, union dues, etc., are reported even though they are deducted from the worker's gross pay.

Wages of covered Federal workers represent the gross amount of all payrolls for all pay periods ending within the quarter. This includes cash allowances, the cash equivalent of any type of remuneration, lump-sum payments for terminal leave, withholding taxes, and retirement deductions. Federal employee remuneration generally covers the same types of services as for workers in private industry. Depending on the method (cash or accrual basis) used by the Federal agency in preparing its quarterly summary balance, the gross amount of payrolls is either paid or payable.

Taxable wages and UI contributions. Taxable wages are that part of employees' annual wages subject to the State UI tax. State laws establish the levels of taxable wages, subject to a Federal minimum ($3,000 in 1938 and raised to $4,200 in 1972, $6,000 in 1978, and $7,000 in 1983). State laws vary widely, and an increasing number of States have raised taxable wage levels well above the Federal minimum requirement. Taxable wages are reported quarterly, and normally are highest in the first and second quarters since UI taxes apply to first dollars earned each year.

Contributions, the amounts employers pay into the State UI funds, also are reported quarterly, and largely consist of the taxes due on taxable wages for the quarter. The other source of contributions, applicable only in four States, is employee contributions. These are unemployment insurance taxes deducted from an employee's pay by the employer and paid with the employer's contribution to the State agency. Many States allow employers to reduce their UI tax rates by making voluntary contributions in addition to the legal requirements. The States also allow certain nonprofit organizations and State and local government agencies the option of paying no UI tax, but instead reimbursing the UI fund for any UI benefits charged against their accounts. Neither the voluntary employer contributions permitted by some States nor the payments made by "reimbursable status" employers are included in the contribution totals.

Employment. In general, UI- and UCFE-covered employment data represent the number of full- and part-time workers earning wages during the pay period including the 12th of the month. Employer pay periods vary, but intervals common to many employers are 7 and 14 days; other employers pay on a semimonthly or monthly basis. An employer who pays on more than one basis, for example, weekly for production employees and biweekly for office employees, reports the total number of workers on each type of payroll for the appropriate period.

Workers are reported in the State where their jobs are physically located. Covered private industry employment includes most corporation officials, executives, supervisory personnel, clerical workers, wage earners, piece workers, and part-time workers. Proprietors, the self-employed, unpaid family members, and certain farm and domestic workers are excluded.

Persons on paid leave, whether it is holiday, sick, vacation, or other are included. Persons on the payroll of more than one firm during the period are counted each time they are reported. Workers are counted even though, in the latter months of the year, their wages may not be subject to the unemployment insurance tax. The employment count excludes workers who earned no wages during the entire applicable pay period because of work stoppages, temporary layoffs, illness, or unpaid vacations.

Employment data reported for Federal civilian employees are a byproduct of the operations of State employment security agencies in administering the provisions of Title XV of the Social Security Act, that is, the program of Unemployment Compensation for Federal Employees. These data are based on reports of monthly employment and quarterly wages submitted each quarter to State agencies for all installations of Federal agencies having employees covered by the act, except the Central Intelligence Agency and the National Security Agency which are omitted for security reasons.

Employment for any given month for all Federal agencies, except the Department of Defense, is based on the number of persons on the payroll for the period including the 12th of the month. At installations of the Department of Defense all persons employed on the last workday of the month are included plus all intermittent employees, i.e., occasional workers who were employed at any time during the month.

Under a 1981 Supreme Court ruling, schools chartered by the various religions are not required to be covered under the UI system. However, many of these schools continue to cover their employees on a voluntary basis. Those schools that do pay UI taxes are included in the ES-202 data. Special provisions for railroad workers are made through the Railroad Unemployment Insurance Act. Data reported for the Railroad Retirement Board program are excluded, by definition, from the ES-202 program.

Over the years, many States have legislated unemployment insurance protection for additional categories of workers above the base established through Federal legislation. Details on State coverage are provided in *Comparison of State Unemployment Insurance Laws*, available upon request from the Employment and Training Administration of the Department of Labor. State comparisons should take into consideration these differences in coverage. When UI-covered private industry employment data are compared directly with other employment series, the industry exclusions also should be taken into account.

Reportings units are, for the most part, individual establishments. An establishment generally is defined as a single physical location at which one, or predominantly one, type of economic activity is carried on. Most employers covered under the State UI laws operate only one place of business. Employers who have establishments in more than one county, or classifiable in different industries, are requested to submit a separate report for each county and industry. Employers having a total of fewer than 50 employees in all secondary counties or industries, however, may combine these units with the primary county or industry report.

In the Federal Government, the equivalent of a reporting unit is an "installation" (a single physical location) and the equivalent of an employer or firm is the organization of which the installation is a part, that is, the department, agency, or instrumentality responsible for an activity of government. Federal agencies currently report data separately by installation. This type of reporting permits the grouping of data by political subdivisions below the State level, for example, county, metropolitan area, etc. However, a few agencies with offices scattered throughout a State submit statewide reports, as permitted by UCFE regulations.

Industrial classification

State employment security agencies use the *Standard Industrial Classification Manual* to classify each reporting unit according to its primary activity. States assign a 4-digit industrial code to all new units, and review and update codes, where necessary, on a 3-year cycle. Establishments or government installations reporting more than one activity allocate the proper proportion of total production, revenue, sales, or payroll costs (depending on the industry group) to each activity. The State agency designates the proportionately largest activity as the primary activity. Occasionally, two or more relatively minor activities may be determined to fall within the same industry classification and, when combined, become the primary activity.

In some industries, separate establishments of the same employer often carry on the same activities, in the same proportions, and may be combined at the county level. Sometimes, however, the proportions vary to such a degree that the units must be classified in separate industries and separate reports must be filed.

Four-digit SIC coding of nonmanufacturing units did not become mandatory until 1978. A few industry exceptions still allow 3-digit coding (34 4-digit SIC's are collapsed into 9 3-digit SIC's). These few exceptions are coded at the 3-digit level because it is difficult to get systematic and accurate information sufficient to code at the 4-digit level.

Geographic coverage

Employment and wage data are collected on an establishment basis subject to the limitations listed earlier under the definition of reporting units. The States summarize individual establishment data on an industry and county basis and transmit these data to BLS, which then summarizes the data to derive State and National totals. In addition, the data may be aggregated to produce industry data for Metropolitan Statistical Areas (MSA's), most Congressional Districts, or any combination of counties that may be desired. For all States, county-level data at the 2-digit SIC level are available back to 1975, whereas National and State-level tabulations at the 3-digit SIC level are available back to 1967, and at the 4-digit SIC level back to 1978.

Other features

In the ES-202 program, emphasis is placed on the total wages concept. In addition, however, derived series are also produced from the employment and wage data. The derived series are average annual pay and average weekly wages. Average annual pay is computed by dividing the total annual payrolls (wages) of employers by average monthly employment. Average annual pay only approximates annual earnings because an individual may not be employed by the same employer all year or may work for more than one employer. The average weekly wage figures are computed by dividing the average annual pay by 52, the number of weeks in a year. The average weekly wage figures for certain industries should be used with caution since the relationship of full-time to part-time workers as well as the seasonal nature of some work can strongly influence these figures. Industries characterized by high proportions of part-time workers will show average weekly wage levels appreciably below the actual weekly earnings levels of regular full-time employees in those industries.

The total wages and/or the average annual pay concepts can be examined to note the increases or decreases that occur over time. However, one should also examine the number of reporting units and the level of employment to ensure that these levels are comparable and, thus, the wage comparison is comparable as well. Industry codes for all employers are reviewed every 3 years to verify the accuracy of the industrial and geographical codes assigned to the employer. Only in this manner can the ES-202 program and other programs that depend on ES-202 data as a benchmark or a base for sampling keep abreast of the changes that are occurring in the economy. (See below, "Uses and limitations.")

Survey Methods

Data collection. Approximately 5 million reporting units in the nonagricultural private sector submit quarterly reports to State agencies with data on monthly employment, quarterly total and taxable wages, and UI contributions. In addition, the 53 State agencies receive reports from about 41,000 reporting units of the Federal

Government for their civilian employees under the UCFE program in each State; they also receive reports covering nearly 99 percent of State and 96 percent of local government employees, and about 40 percent of all farm workers.

State agencies summarize and codify the raw data, check for missing information and errors, prepare estimates of data for delinquent reports, edit the data at the micro and macro levels, machine process the data onto magnetic tapes, and finally, 5 months following the end of each quarter, send the tapes to BLS-Washington. BLS, in turn, further summarizes these county data to derive State and national levels by industry and publishes the summaries in the annual *Employment and Wages* publication. Individual States, which have a wide range of uses for these data, usually publish their own ES-202 data.

Estimated data. To reduce the effect of data excluded because of late reporting by covered private and government employers, State agencies estimate employment and wages for such employers and include the estimates in each quarterly report. Updates to data, which may be entered after a report is filed, will include replacement of estimates with reported data. Estimates are prepared for the individual reporting unit based on data reported for the preceding quarter and trends in employment reported by employers and installations in the same industry. Information obtained from other sources also is used. If an account remains delinquent for more than one quarter but research shows that it is still active, the reporting unit will be estimated again.

Reliability. Since the data comprise a universe count of employees covered by UI, the report is not subject to sampling variability. There are several potential sources of error, however, since the industrial activities and location of employers may change over time and, thus, the change may not be noted until the next review of that employer. Also, since estimates are used for delinquent accounts, these data may be slightly different from the actual data reported by employers, once their reports are received. The States are instructed to replace all estimates with the employer's actual data if the data are received within 60 days of the report's due date in Washington. If the 60-day period has expired, actual data will be substituted for estimated numbers if the data are found to meet a certain "significance" test at the county level. The ES-202 data files at BLS are kept open for updates about 1 year after receipt of a quarter's report. Thus, the latest year's data are considered preliminary and subject to change.

Presentation of data

Published data. Data are published annually in the BLS bulletin, *Employment and Wages*. For the private sector at the national level, data are published at the 4-, 3-, 2-, and 1-digit industrial level of detail showing the current year's data and the year-to-year change for the average number of reporting units, annual average employment, total annual wages, and average weekly wages. State data are only published at the 4-digit level of industrial detail for the private sector for the current year. These data include the same data types as above as well as the annual wage per employee. (See figures 5-1 and 5-2.) Data are also published separately in limited industry detail for Federal, State, and local government.

Two news releases are issued each year by BLS that provide annual data from the ES-202 program. The State-data news release, issued in late August, provides average annual pay data for the 2 most recent years and the percent change in pay. For the Nation as a whole and for each State, data are tabulated by major industry division for private employers and for total government. Also published are rankings of States based on pay levels and pay changes, and a map which illustrates the variances in pay changes among the States.

Average annual pay of workers in U.S. metropolitan areas is the subject of the second news release which is issued in late September. Average annual pay figures for all Metropolitan Statistical Areas (MSA's as defined by the U.S. Office of Management and Budget) are provided for the 2 most recent years as well as the percent change in earnings levels. MSA's are listed alphabetically and are ranked by level and percent change in pay. Similar information is published for Consolidated Metropolitan Statistical Areas (CMSA's). Both releases include a brief analysis of the data and a technical note.

Unpublished data. In addition to the three annual reports of ES-202 data, BLS answers data requests by providing computer tapes or hard copy of both published and unpublished data. From 1978, quarterly and annual data at the national or State level are available at all SIC levels by the five types of ownership: Federal, State, local, and international governments, and private industry. Data for the latest quarter are usually available about 10 months after the close of that quarter. County-level data, including tabulations that are aggregated to metropolitan areas, are provided at the 2-digit SIC level by ownership on a historical basis from 1975 to 1983. Since 1984, quarterly data at the 4-digit level by county are also available. For private industry only, first-quarter data by size-of-reporting unit is provided upon request. ES-202 reports tabulate reporting units into 10 size categories ranging from zero employees up to 1,000 employees or more. As a matter of policy, requesters must pay expenses incurred by BLS for providing requested data. In addition, because of the BLS policy of confidentiality, BLS screens all data to suppress information that could reveal the employment and wages of an individual reporting unit. There are no seasonally adjusted ES-202 data.

Uses and limitations

The UI-covered employment and wages data (ES-202 series) are the most complete universe of monthly employment and quarterly wage information by industry at the national, State, and county levels. They have broad economic significance in evaluating labor market trends and major industry developments, in time series analyses and industry comparisons, and in special studies such as analyses of wages by size of employer.

Uses. The program provides data necessary to both the Employment and Training Administration (ETA) of the U.S. Department of Labor and the State employment security agencies to administer employment security programs. These data reflect the extent of coverage of the State unemployment insurance laws and are used to measure UI revenues and disbursements; national, State, and local area employment; and total and taxable wage trends. ES-202 data are used in actuarial studies of the unemployment insurance system, and for determining employer tax rates, maximum unemployment insurance benefit levels for the unemployed, and areas needing Federal UI assistance. The data also are used to evaluate the solvency of State unemployment insurance trust funds. In addition, ES-202 data are used to compute State unemployment rates for workers covered by UI programs as well as national averages of these rates. The rates, in turn, at specified levels, trigger extended unemployment insurance benefit programs. The ES-202 data are also used by a variety of BLS programs. They serve, for example, as the basic source of benchmark information for employment by industry and by size of unit in the Current Employment Statistics program (BLS-790). (See chapter 3.) The Unemployment Insurance Address File, developed in conjunction with the ES-202 report, also serves as a national sampling frame for Industry Wage Surveys; Area Wage Surveys; Employment Cost Index; Professional, Administrative, Technical, and Clerical Pay Survey; Occupational Employment Statistics; and other establishment-based programs.

Additionally, the Bureau of Economic Analysis of the Department of Commerce uses ES-202 data as a base for developing a large part of the wage and salary component of the national income accounts. Personal income estimates from this source are instrumental in determining Federal allocation of revenue-sharing funds to State and local governments. The Health Care Financing Administration of the Department of Health and Human Services uses wage indexes based upon ES-202 Employment and Wages data as a component for determining reimbursable costs in the Medicare program. ETA uses ES-202 data as an element in the process of setting wage rates for alien farm workers who are brought into the United States on a temporary basis to harvest agricultural crops.

The ES-202 data are one of the principal sources of detailed employment and wage statistics used by business and public and private research organizations. State governments often use ES-202 data in econometric models to determine projected income tax revenues. These data also are frequently provided to private companies for use in economic forecasting.

Limitations. Although coverage has increased over the years, there are some groups of workers who are still not covered by unemployment insurance laws. Among these are 0.5 million agricultural employees, 1.6 million self-employed farmers, 7.6 million self-employed nonagricultural workers, 1.2 million domestic workers, and 0.6 million unpaid family workers. Also excluded are 0.4 million workers covered by the railroad unemployment insurance system. In addition, 0.6 million State and local government workers are not covered by unemployment compensation laws.

In analyzing and comparing UI data geographically and over time, one must take into account the effects of Federal coverage changes and the effects of nonuniform coverage among States. At the industry level, while most SIC coding since 1978 has been at the 4-digit level, a few industries are still coded at the 3-digit level. In addition, average weekly wages in some industries are strongly influenced by seasonal factors, for which no adjustments are made, and by the relationship of full-time to part-time workers.

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Figure 5.1

Table 2. Private industry by 4-digit SIC industry and government by level of government, 1983 annual averages: Reporting units, employment, and wages, change from 1982

Industry/ownership	SIC code	Average reporting units		Annual average employment		Total annual wages (in thousands)		Average weekly wage	
		1983	Change from 1982	1983	Change from 1982	1983	Change from 1982	1983	Change from 1982
Total		5,018,216	108,587	89,805,881	735,657	$1,570,680,297	$84,675,137	$336	$16
Total private		4,835,728	105,257	74,165,016	709,042	1,288,464,431	68,936,303	334	15
Agriculture, forestry, and fishing		115,681	3,841	1,136,574	14,619	11,969,162	565,227	203	7
Agricultural production--crops	0100	35,837	541	509,117	-4,529	958,688	132,761	187	7
Cash grains	0110	3,397	306	23,884	132	261,805	4,654	211	3
Wheat	0111	506	118	3,146	596	36,978	7,501	226	4
Rice	0112	523	36	2,898	-29	38,575	-768	256	-3
Corn	0115	398	15	5,243	-354	64,040	-145	235	14
Soybeans	0116	486	12	4,230	-257	42,679	-1,973	194	3
Cash grains, nec	0119	1,485	126	8,367	176	79,531	39	183	-4
Field crops, except cash grains	0130	4,210	76	59,026	-1,880	622,821	8,838	203	9
Cotton	0131	1,673	46	18,673	-2,075	192,851	-13,433	199	7
Tobacco	0132	240	-2	4,489	-406	26,504	-3,630	114	-5
Sugar crops	0133	735	-23	15,478	823	198,138	19,953	246	12
Irish potatoes	0134	414	18	5,994	-146	61,221	1,538	196	9
Field crops, except cash grains, nec	0139	1,147	36	14,392	-77	144,106	4,411	193	7
Vegetables and melons	0160	2,980	33	94,339	-66	919,803	28,749	188	6
Vegetables and melons	0161	2,980	33	94,339	-66	919,803	28,749	188	6
Fruits and tree nuts	0170	13,038	139	151,510	340	1,219,842	51,183	155	6
Berry crops	0171	746	88	15,727	683	133,629	17,019	163	14
Grapes	0172	3,525	61	39,013	-546	312,179	11,676	154	8
Tree nuts	0173	1,530	-23	9,474	-201	87,640	1,418	178	7
Citrus fruits	0174	1,485	2	21,066	571	194,176	4,986	177	0
Deciduous tree fruits	0175	2,952	49	45,511	464	331,807	10,039	140	3
Fruits and tree nuts, nec	0179	2,798	-41	20,720	-630	160,411	6,046	149	10
Horticultural specialties	0180	5,760	166	114,775	1,890	1,277,968	70,362	214	8
Ornamental nursery products	0181	5,232	169	97,153	394	1,060,922	42,545	210	8
Food crops grown under cover	0182	420	17	16,385	1,669	202,711	29,129	238	11
Horticultural specialties, nec	0189	108	-21	1,237	-172	14,335	-1,313	223	9
General farms, primarily crop	0190	6,453	-179	65,584	-4,943	656,450	-31,026	192	5
General farms, primarily crop	0191	6,453	-179	65,584	-4,943	656,450	-31,026	192	5
Agricultural production--livestock	0200	11,882	332	130,813	1,105	1,562,866	60,287	230	7
Livestock, except dairy, poultry, etc	0210	4,446	199	37,468	1,648	473,505	32,802	243	6
Beef cattle feedlots	0211	880	17	13,143	922	197,080	16,071	288	4
Beef cattle, except feedlots	0212	2,872	126	18,735	314	208,057	8,593	214	5
Hogs	0213	339	35	3,412	385	45,515	7,465	257	15
Sheep and goats	0214	232	10	1,279	8	12,627	-216	190	-4
General livestock, nec	0219	123	12	899	19	10,227	889	219	15
Dairy farms	0240	3,607	77	31,118	1,079	368,368	19,491	228	4
Dairy farms	0241	3,607	77	31,118	1,079	368,368	19,491	228	4
Poultry and eggs	0250	1,631	-16	42,715	-1,478	488,849	494	220	8
Broiler, fryer, and roaster chickens	0251	235	-8	8,552	-824	107,576	-6,428	242	8
Chicken eggs	0252	664	2	17,513	-146	188,017	5,541	206	8
Turkeys and turkey eggs	0253	311	5	5,221	187	62,166	3,858	229	6
Poultry hatcheries	0254	343	-16	10,340	-687	120,571	-2,796	224	9
Poultry and eggs, nec	0259	79	2	1,090	-7	10,518	320	186	7
Animal specialties	0270	1,456	89	13,705	591	164,611	12,950	231	9
Fur-bearing animals and rabbits	0271	111	7	1,178	77	12,377	851	202	1
Horses and other equines	0272	687	59	7,209	596	84,795	9,401	226	7
Animal specialties, nec	0279	658	24	5,318	-82	67,440	2,698	244	13
General farms, primarily livestock	0290	743	-18	5,807	-735	67,534	-5,450	224	9
General farms, primarily livestock	0291	743	-18	5,807	-735	67,534	-5,450	224	9
Agricultural services	0700	61,642	3,138	462,213	18,288	4,868,731	366,340	203	8
Soil preparation services	0710	669	17	3,126	-51	42,058	631	259	8
Soil preparation services	0711	669	17	3,126	-51	42,058	631	259	8
Crop services	0720	5,902	71	73,877	-2,887	828,690	-14,062	216	5
Crop planting and protection	0721	2,111	-28	11,332	-1,156	156,392	-16,968	265	-2
Crop harvesting	0722	753	2	7,590	756	81,937	9,600	208	4
Crop preparation services for market	0723	1,692	18	43,345	-77	455,306	24,560	202	11
Cotton ginning	0724	1,227	76	9,944	-2,229	115,064	-29,826	223	-6
General crop services	0729	119	3	1,667	-180	19,991	-1,428	231	8
Veterinary services	0740	15,560	643	80,645	4,392	957,345	79,571	228	7
Animal services, except veterinary	0750	7,044	273	36,678	1,747	388,106	36,184	203	10
Livestock services, except specialties	0751	1,739	-6	12,879	40	158,810	5,832	237	8
Animal specialty services	0752	5,305	279	23,799	1,707	229,297	30,352	185	12

SOURCE: *Employment and Wages Annual Averages 1983*, BLS Bulletin 2238, May 1985.

Figure 5.2

Table 5. Private industry by State and 4-digit SIC industry: Reporting units, employment, and wages, 1983 annual averages

State	Average reporting units	Annual average employment	Total annual wages (in thousands)	Annual wages per employee	Average weekly wage	Average reporting units	Annual average employment	Total annual wages (in thousands)	Annual wages per employee	Average weekly wage
	Total private					Agriculture, forestry, and fishing				
Total	4,835,728	74,165,016	$1,288,464,431	$17,373	$334	115,681	1,136,574	$11,969,162	$10,531	$203
Alabama	71,698	1,016,754	15,585,204	15,328	295	1,290	11,539	130,633	11,321	218
Alaska	13,697	149,860	4,272,713	28,511	548	209	608	13,524	22,240	428
Arizona	60,470	883,425	14,388,497	16,287	313	1,891	26,484	270,315	10,207	196
Arkansas	47,418	597,112	8,525,532	14,278	275	1,396	11,510	127,240	11,055	213
California	530,382	8,578,993	161,235,461	18,794	361	32,380	389,397	4,008,326	10,294	198
Colorado	79,466	1,079,087	19,327,715	17,911	344	1,480	12,928	153,274	11,856	228
Connecticut	78,264	1,256,242	23,734,024	18,893	363	1,321	10,233	118,293	11,560	222
Delaware	11,915	220,242	4,071,068	18,485	355	212	2,162	26,190	12,115	233
District of Columbia	18,166	320,697	6,651,998	20,742	399	n	n	n	n	n
Florida	250,359	3,306,765	50,391,457	15,239	293	7,297	120,570	1,124,914	9,330	179
Georgia	111,983	1,802,858	29,066,152	16,122	310	1,892	19,018	199,965	10,515	202
Hawaii	20,734	325,637	4,851,189	14,898	286	402	11,472	167,741	14,622	281
Idaho	22,707	244,131	3,714,338	15,215	293	855	9,884	99,704	10,087	194
Illinois	212,539	3,717,194	69,770,237	18,770	361	2,725	20,716	266,129	12,847	247
Indiana	100,111	1,658,409	28,573,769	17,230	331	1,502	12,523	140,971	11,257	216
Iowa	65,917	814,199	12,318,403	15,129	291	1,417	7,472	91,386	12,230	235
Kansas	63,992	726,702	11,612,842	15,980	307	1,162	7,558	98,700	13,059	251
Kentucky	65,241	903,733	14,403,235	15,937	306	1,020	9,138	109,255	11,956	230
Louisiana	86,239	1,220,717	21,658,999	17,743	341	1,954	12,302	140,213	11,397	219
Maine	29,128	339,526	4,761,593	14,024	270	533	4,225	44,648	10,567	203
Maryland	81,963	1,328,221	21,865,490	16,462	317	1,388	11,716	128,057	10,930	210
Massachusetts	113,274	2,281,991	39,150,054	17,156	330	1,928	15,100	216,928	14,366	276
Michigan	134,902	2,591,941	51,295,819	19,791	381	2,154	20,295	216,307	10,658	205
Minnesota	96,742	1,405,677	23,750,173	16,896	325	1,862	12,905	147,828	11,455	220
Mississippi	47,064	602,808	8,425,301	13,977	269	1,483	13,351	124,580	9,331	179
Missouri	102,690	1,578,421	26,519,601	16,801	323	1,743	11,091	118,300	10,666	205
Montana	23,861	204,174	2,998,608	14,687	282	492	2,754	29,769	10,811	208
Nebraska	38,218	464,728	6,747,626	14,520	279	870	5,988	78,018	13,030	251
Nevada	21,328	342,830	5,694,941	16,612	319	380	2,618	35,910	13,717	264
New Hampshire	24,322	348,102	5,372,933	15,435	297	339	2,032	23,617	11,624	224
New Jersey	155,269	2,601,114	48,757,501	18,745	360	2,914	18,439	207,271	11,241	216
New Mexico	30,867	351,994	5,387,560	15,306	294	627	6,878	66,421	9,657	186
New York	415,608	5,980,849	117,417,868	19,632	378	5,160	31,310	373,886	11,941	230
North Carolina	115,130	1,985,206	29,039,914	14,628	281	1,913	18,959	185,127	9,765	188
North Dakota	20,361	183,478	2,727,396	14,865	286	633	2,218	25,177	11,352	218
Ohio	204,685	3,352,187	60,338,793	18,000	346	3,247	21,444	254,523	11,869	228
Oklahoma	63,033	895,545	15,536,147	17,348	334	899	6,823	79,328	11,626	224
Oregon	64,209	761,955	12,516,518	16,427	316	2,256	21,743	213,337	9,812	189
Pennsylvania	213,473	3,753,123	63,655,022	16,961	326	3,155	28,132	311,760	11,082	213
Puerto Rico	31,036	432,063	4,434,501	10,264	197	3,753	19,424	67,299	3,465	67
Rhode Island	25,165	336,490	4,979,285	14,798	285	610	2,587	35,346	13,662	263
South Carolina	60,267	943,665	13,670,165	14,486	279	1,031	10,303	104,566	10,149	195
South Dakota	19,951	172,270	2,207,240	12,813	246	324	1,590	18,857	11,863	228
Tennessee	80,346	1,392,223	21,441,571	15,401	296	1,118	8,969	88,534	9,871	190
Texas	306,118	5,077,600	92,955,274	18,307	352	5,931	62,549	687,122	10,985	211
Utah	33,352	418,615	6,786,791	16,212	312	365	2,710	28,172	10,396	200
Vermont	15,125	165,557	2,402,519	14,512	279	246	1,642	17,784	10,831	208
Virginia	98,614	1,665,628	26,411,460	15,857	305	1,564	13,441	141,626	10,537	203
Virgin Islands	2,535	22,632	303,833	13,425	258	n	n	n	n	n
Washington	102,019	1,251,569	22,069,284	17,633	339	4,027	41,348	397,203	9,606	185
West Virginia	34,983	437,835	7,548,830	17,241	332	313	2,512	22,271	8,867	171
Wisconsin	102,988	1,523,754	24,501,032	16,079	309	1,706	13,774	170,286	12,363	238
Wyoming	15,808	148,488	2,640,957	17,786	342	261	1,936	20,063	10,365	199

SOURCE: *Employment and Wages Annual Averages 1983*, BLS Bulletin 2238, May 1985.

Chapter 6. Income and Earnings Data from the Consumer Expenditure Survey

Consumer expenditure surveys are specialized studies in which the primary emphasis is on collecting data relating to consumer unit expenditures for goods and services.[1] The surveys also collect information on the amounts and sources of family income, changes in assets and liabilities, and demographic and socioeconomic characteristics of the consumer unit. Users are thus able to relate expenditures to information about consumer unit characteristics and income.

Background

The Bureau's studies of consumer living costs rank among its oldest data-collecting functions. Surveys of expenditures, income, and savings have been conducted periodically since the first survey in the late 19th century. They have been the most comprehensive sources of detailed information on expenditures, income, and changes in assets and liabilities related to the socioeconomic and demographic characteristics of consumer units in the United States. Results from the surveys have provided the information necessary to revise the Consumer Price Index market baskets of goods and services.

The current Consumer Expenditure Survey (CE) began in 1980 and is the first since 1972-73. As in 1972-73, data collection was carried out by the Bureau of the Census under contract to the BLS. Whereas past surveys were conducted about every 10 years, the current survey is ongoing. It had been apparent for some time that there was a need for more timely data than could be supplied by surveys conducted at 10-year intervals. The rapidly changing economic conditions of the 1970's highlighted this need.

Description of the survey

The ongoing Consumer Expenditure Survey covers the urban portion of the civilian noninstitutional population. Like the 1972-73 survey, it consists of two separate components, each with its own questionnaire and sample: 1) a Quarterly Interview survey in which each of the sampled consumer units reports information to an interviewer every 3 months for five consecutive quarters, and 2) a Diary survey in which consumer units are asked to complete a diary of expenses for two consecutive 1-week periods. The Interview survey is designed to obtain data on expenditures and income that respondents can be expected to recall for a period of 3 months or longer, such as property or automobile purchase, and those that occur on a regular basis, such as rent, utility bills, or insurance premiums. The Diary survey obtains data on frequently purchased items, such as food and beverages, housekeeping supplies, etc., that respondents are less likely to be able to recall over long periods of time.

Data on the total money income from all sources earned by consumer unit members 14 years old and over are collected in both the Diary and Interview surveys. In the 1972-73 survey, there were differences between the Diary and Interview in the collection of income detail, but in the current survey the coverage is the same. For both surveys, respondents are asked the amount of income received from all sources for the 12 months prior to the interview. Individual consumer unit members are asked the amounts of income received from wages and salaries, self-employment income, Social Security and Railroad Retirement, and Supplemental Security income. Additionally, information on income from all other sources including worker's compensation, interest income, rental income, contributions, etc., is asked of the consumer unit as a whole. Income detail collected in both surveys is shown in exhibit 6.1. "Money income before taxes" is defined as the total money receipts in the 12 months prior to the interview dates. The components of "money income before taxes," also shown in exhibit 6.1, however, do not include lump-sum payments from Social Security, refunds from insurance policies, or refunds from property taxes. These items are included in the addenda as "Other money receipts."

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[1] A consumer unit is defined as: (1) all members of a particular household who are related by blood, marriage, adoption or other legal arrangements; or (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; or (3) two or more persons living together who pool their income to make joint expenditure decisions.

Exhibit 6.1. Consumer Expenditure Survey—Level of income detail collected[1]

Sources of income and personal taxes

- Money income before taxes
  - Wages and salaries
  - Self-employment income
    - Net business income
    - Net farm income
  - Social Security, private and government retirement
    - Social Security
    - Railraod retirement
    - Pensions and annuities
  - Dividends, interest, rental and other property income
    - Dividends, royalties, estates, and trusts
    - Interest from savings accounts or bonds
    - Roomer and boarder income
    - Other rental income
  - Income from all other sources
    - Supplemental Security Income
    - Worker's compensation
    - Unemployment compensation
    - Veteran's payments
    - Public assistance or welfare
    - Alimony and child support
    - Other income
    - Food stamps
    - Meals as pay
    - Rent as pay
- Personal taxes paid
  - Federal income taxes
  - State and local taxes
  - Personal property and other taxes

Addenda

- Other money receipts

In the Diary survey, questions on income from all sources are asked at the end of the second week of the respondent's participation. In the Interview survey, respondents are asked income questions twice—in the second and fifth interviews. Asset and liability questions are also asked in the fifth interview. Information on assets and liabilities is not collected in the Diary survey.

In addition to the income and expenditure data collected from each consumer unit, work experience and the occupations of the consumer unit members are reported. Occupational data are available on public use computer tapes. A more detailed breakdown of occupational codes is provided on the Interview tape than on the Diary tape. Information about the public use tapes, including tape documentation, is available from BLS.

Survey methods and sample design

The samples for the ongoing Consumer Expenditure Surveys are national probability samples of households designed to be representative of the urban U.S. civilian noninstitutional population. The Bureau of the Census establishes an address sample of 6,800 households that are requested to participate annually in the Diary survey. This results in an effective annual sample size of 4,800, since many interviews are not completed due to refusals, vacancies, or the nonexistence of the household address. The interviews are spaced over the year. For the Interview survey, approximately 8,400 addresses are contacted in each of five calendar quarters. Allowing for bounding interviews, which are not included in estimates, and for nonresponse (including vacancies), the number of completed interviews per quarter is targeted at 4,800.[2] Each month, one-fifth of the units interviewed are new to the survey. This panel—and all others—is interviewed for five consecutive quarters and then dropped from the survey. This rotation of panels, used by the Bureau of the Census in several other continuing surveys, has the advantage of operational efficiency.

Processing the data

Upon receipt of the data from the Bureau of the Census, BLS conducts an extensive review to ensure that severe aberrations in the data are corrected. The review takes place in several stages: A review of counts and expenditure and income averages; a review to assure consistency in the coding of consumer unit relationships; a selective review of extreme values (both high and low) for expenditure and income categories; and a verification of the various data transformations performed by BLS. Cases of questionable data values or relationships are investigated by examining questionnaires on microfilm. Errors discerned through these procedures are corrected prior to release of the data for public use. Three major types of data adjustment routines—imputation, allocation, and time adjustment—are conducted to improve expenditure estimates derived from the survey. Data imputation routines account for missing or invalid entries and affect all fields in the data base except income and assets.

Since income is not imputed, respondents who fail to report income are separated from those who do report income in classifying consumer units by income. Respondents are classified as either complete or incomplete income reporters. The distinction between the two types of reporters is based, in general, on whether the respondent provides values for major sources of income such as wages and salaries, self-employment, and Social Security. Even complete income reporters may not provide a full accounting of all income from all sources. Across-the-board zero income reporting is designated as invalid, and the consumer unit is categorized as an incomplete reporter.

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[1] The level of detail in publications may vary from the level of collection depending on the reliability of the detail.

[2] Bounding refers to the initial interview in which information is collected on demographic and consumer unit characteristics and on the inventory of major durable goods of each consumer unit. Expenditure information is also collected in this interview, using a 1-month recall, but is used, along with the inventory information, solely for bounding purposes; that is, to classify the unit for analysis and to prevent duplicate reporting of expenditures in subsquent interviews.

Reliability of the data

Sample surveys are subject to two types of errors, nonsampling and sampling. Nonsampling errors can be attributed to many sources, such as definitional difficulties, differences in the interpretation of questions, inability or unwillingness of the respondent to provide correct information, mistakes in recording or coding the data obtained, interviewer variability, and other errors of collection, response, processing, coverage, and estimation for missing data.

In any sample survey, variations (or errors) in the data can occur by chance because a sample rather than a census of the population is taken. The measure of this variation is called the standard error. Standard error tables applicable to published CE data can be obtained from the Bureau's Division of Consumer Expenditure Surveys.

Major BLS products

Information from the ongoing CE is available in several BLS publications. The earliest source of data is the CE press release. Considerably more detail is subsequently published in the Bureau's bulletins, reports, and analytical papers, and is also on public use tapes. (See "References" at the end of this chapter.) BLS publications may be obtained through the BLS Chicago regional office or from the Government Printing Office. Information on public use tapes can be obtained from the Bureau's Division of Consumer Expenditure Surveys.

Publications generally include tabulations of average expenditures and income arrayed by consumer unit characteristics, one of the most important of which is income class. The income classes are defined both by dollar classes and by percentile groups. Figure 6-1, which is based on data collected in the 1980-81 Interview survey, shows consumer unit characteristics, expenditures, and sources of income, classified by quintiles of before-tax income. For each time period represented in the tables, complete income reporters are ranked in ascending order according to the level of total before-tax income reported by the consumer unit. The ranking is then divided into five equal groups. Incomplete income reporters are not ranked and are shown separately.

Data collected in the 1980-81 Diary surveys were published in 1983 and Interview survey data in those years were published in 1985. Data are shown at a relatively aggregated level due to the small sample size of the ongoing survey. As the survey continues and more data become available, however, estimates for several years may be combined to provide greater income detail and additional classification of consumer units. For example, the geographic level at which the data are currently published is by region—Northeast, Midwest, South, and West—but in the future the estimates may be published for large Metropolitan Statistical Areas.

The public use tapes contain the actual expenditure and income reports of each consumer unit, but prevent identification of the unit, even indirectly, by eliminating selected geographic detail.

Uses of the survey

As the only nationwide study that links the levels of consumer unit income to patterns of consumer expenditures and savings, the survey data allow users to classify expenditures by income alone or in conjunction with other socioeconomic and demographic characteristics of the consumer unit. The survey data are of value to government and private agencies interested in studying the welfare of particular segments of the population, such as the aged, low-income consumers, urban, and those receiving food stamps. The Internal Revenue Service has used the data as the basis for revising the average State sales tax tables which taxpayers may use in filing Federal income tax returns. The survey data are used by economic policymakers interested in the effects of policy changes on expenditure levels of diverse socioeconomic groups. Economists and market researchers find them valuable in analyzing consumer demand for groups of goods and services. The Department of Commerce uses the survey data as a source of information for revising its benchmark estimates of some of the personal consumption expenditure components of the gross national product.

As in the past, the revision of the Consumer Price Index remains a major reason for undertaking such an extensive survey. The results of the CE are used to select new market baskets of goods and services for the index, to determine the relative importance of the items selected, and to derive new cost weights for the baskets. Several years of data from both the Diary and Interview surveys are required to construct the complete picture of consumer spending needed to update the market baskets for the Consumer Price Index.

Comparison with other series

Data from the 1980-83 survey can be compared with data from earlier CE surveys only after adjustments are made to the data to account for differences in concepts and definitions between the surveys. The most important differences between the previously published 1972-73 data and the current survey data are:

- The population is limited to the urban population in 1980-83, whereas the urban and rural population were covered in 1972-73. Beginning with collection of data for 1984, the rural population will be covered in the ongoing survey.

- Students living in college- or university-regulated housing report their own expenditures separately in the current survey, rather than as part of their parents' households as in 1972-73.
- Only income data for complete reporters are shown in the 1980-81 tables. The average income for complete reporters is an approximation of average income for all respondents. In 1972-73, average income data were published for all respondents, complete and incomplete.

- Consumer units that responded to the income questions, but reported zero income, are considered to be incomplete income reporters in 1980-81, while in 1972-73, zero responses were considered valid.

- In 1980-81, 'Total expenditures' include total consumption, as defined in 1972-73, plus outlays for personal insurance, retirement and pension payments (including Social Security), and gifts and contributions.

- Gifts of goods are now included with the appropriate component. For example, apparel gifts are included with apparel expenditures. In 1972-73, gifts were shown separately.

- In 1980-81, expenditures while on trips, including those for food, lodging, gasoline, and other transportation, are included with the appropriate component rather than with recreation, as was done in 1972-73.

A detailed concordance between the surveys, as well as a comparison of the data, is shown in appendix C of BLS Bulletin 2225, *Consumer Expenditure Survey, Interview Survey, 1980-81*.

Two other major income studies are published by agencies of the U.S. Department of Commerce. The Bureau of the Census publishes family income information from the Current Population Survey (CPS)[3], and the Bureau of Economic Analysis (BEA) publishes aggregate family income data in the National Income and Product Accounts (NIPA). While there are similarities among the three studies, differences do exist. First, the population coverage of the CPS is somewhat broader than that of the Consumer Expenditure Survey, as the CPS includes military personnel living on-post with their families. Second, income estimates in the CPS are shown for households, families, and persons whereas the CE estimates are for consumer units. While the income items reported are similar for both the CE and the CPS, the Census Bureau imputes missing income items in the CPS while the BLS performs no imputation on income items.

There are also differences in CE income estimates and personal income as defined in the NIPA. The NIPA estimates are shown as aggregates for all persons, while the CE estimates are averages for consumer units. The population coverage of NIPA is broader since it includes inmates of institutions and military personnel overseas and on-post in the U.S. There are different data sources for each series as well. CE data are collected directly from survey households; BEA data are estimated primarily from information provided by business and government sources. The coverage of income items also differs. For example, personal contributions for social insurance are excluded from personal income in the National Accounts. Other exclusions from BEA's income component are income received in the form of alimony, separate maintenance payments, and contributions for support. All of these are included in the BLS definition of income for the recipient household.

John M. Rogers
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Living Conditions

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[3] See chapter 4, "Earnings statistics from the Current Population Survey," for a complete discussion of this survey.

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Figure 6.1

Table 1. Average annual expenditures of urban consumer units classified by QUINTILES OF INCOME BEFORE TAXES, Interview Survey, 1980-81

Item	All consumer units	Complete reporting of income						Incomplete reporting of income
		Total complete reporting	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%	
Number of CU's (in thousands)	68,295	57,337	11,426	11,480	11,456	11,475	11,501	10,958
CONSUMER UNIT CHARACTERISTICS								
Size of consumer unit	2.7	2.7	1.8	2.3	2.7	3.2	3.4	2.6
Age of householder	46.2	45.3	51.8	46.4	42.3	41.4	44.6	51.1
Number in consumer unit:								
Earners	1.4	1.4	.6	1.0	1.5	1.8	2.2	1.3
Vehicles	1.9	1.9	.7	1.4	1.9	2.4	2.9	1.7
Children under 18	7	8	.4	6	.8	1.0	1.0	.6
Persons 65 and over	3	.3	.5	.4	.2	.1	.1	.4
Percent homeowner	61	60	36	46	57	74	88	67
TOTAL EXPENDITURES	$17,144	$17,301	$7,852	$11,570	$15,736	$20,714	$30,563	$16,324
Food	3,224	3,201	1,820	2,452	3,028	3,737	4,959	3,346
Alcoholic beverages	280	284	129	221	281	329	460	256
Housing	5,051	5,016	2,682	3,605	4,448	5,810	8,516	5,234
Shelter	2,816	2,797	1,526	2,002	2,457	3,233	4,757	2,917
Owned dwellings	1,.655	1,627	501	727	1,180	2,154	3,564	1,802
Rented dwellings	913	933	926	1,173	1,130	826	610	811
Other lodging	248	237	99	102	147	253	584	304
Fuels, utilities and public services	1,263	1,246	739	995	1,210	1,466	1,814	1,355
Household operations	260	257	155	211	165	250	500	280
Housefurnishings and equipment	711	716	261	398	616	860	1,445	683
Apparel and services	935	941	396	569	810	1,075	1,851	902
Transportation	3,454	3,486	1,251	2,278	3,377	4,461	6,050	3,282
Vehicles	1,174	1,174	379	697	1,078	1,593	2,117	1,172
Gasoline and motor oil	1,175	1,197	453	857	1,235	1,543	1,893	1,061
Other vehicle expenses	880	897	291	568	883	1,145	1,594	790
Public transportation	225	218	128	156	181	179	446	260
Health care	746	729	476	595	700	807	1,066	836
Other expenditures	3,455	3,644	1,097	1,849	3,091	4,496	7,660	2,469
SOURCES OF INCOME[1]								
Money income before taxes	19,989	19,989	3,473	9,791	16,809	25,128	44,616	-
Wages and salaries	15,914	15,914	1,251	5,817	13,088	21,950	37,355	-
Self-employment income	969	969	-314	280	591	867	3,408	-
Social security, private and government retirement	1,736	1,736	1,590	2,440	1,940	1,196	1,511	-
Interest, dividends, rental income, other property income	708	708	140	392	527	634	1,841	-
Unemployment and workers' compensation, and veterans' benefits	218	218	102	230	311	271	178	-
Public assistance, supplemental security income and foods stamps	230	230	547	395	128	45	38	-
Regular contributions for support	149	149	107	176	154	115	192	-
Other income	64	64	48	61	70	49	94	-
ADDENDA								
Other money receipts	251	251	107	236	192	310	410	-

[1] Income values are derived from "complete income reporters" only.

SOURCE: *Consumer Expenditure Survey: Interview Survey, 1980-81*, table 1, Bulletin 2225 (1985).

Chapter 7. The Employment Cost Index

The Employment Cost Index (ECI) is the Bureau's most comprehensive measure of change in employers' costs for employee compensation. The major distinguishing features of the ECI are the following:

1. It includes employers' costs for employee benefits as well as wages and salaries;
2. All employees in the private nonfarm sector and in State and local governments are included in the index's coverage;
3. It measures change in compensation rates and is not affected by employment shifts among jobs and industries with different levels of compensation; and
4. The ECI provides subseries by industry, occupation, and ownership (that is, public or private) that are consistent with the aggregate series. Subseries by union status and region are also published.

These features are required for many kinds of analysis concerned with changes in the cost of labor as a factor of production.[1] Other Bureau series have some of these elements, but no other series has all of the required characteristics.

Background

The ECI, a relatively new series, was developed in the early 1970's when policymakers and analysts required a conceptually sound measure of the changes in labor costs to analyze the inflationary process and to formulate and monitor economic policy.

It was implemented in stages. The initial publication of data in 1976 covered quarterly changes in wages and salaries for the private nonfarm economy. Expansions of the index occurred in 1980 when employer payments for employee benefits were added, and in 1981 when establishments from State and local government were included. The series now covers compensation for the civilian nonfarm economy, excluding private household workers and employees of the Federal Government.

Description of the survey

The survey measures changes in the price of labor defined as the rate of compensation per employee hour worked. Emphasis on the rate, rather than on average hourly earnings, distinguishes the price index nature of the ECI from other BLS series. Self-employed, owner-managers, and unpaid family workers are excluded from coverage.

The ECI is a Laspeyres, fixed-weight index. The employment weights are held fixed at the industry/occupation level, thus eliminating the effects of employment shifts among occupations and industries with different wage and compensation levels; they are derived from the occupational employment counts for industries reported in the 1970 Census of Population. (In mid-1986 the weights will be revised to reflect the results of the 1980 census.)

Indexes for union status and location categories are not standard Laspeyres indexes because it was not possible to include their employment counts in the basic sample design.[2] Employment weights for these series are reallocated each quarter depending on the current distribution of employment within the ECI sample, giving these special indexes many of the properties of Laspeyres chain indexes.

The ECI is a sample survey. Establishments in the sample are selected for each industry with probability proportional to employment. Within each establishment, individual jobs to represent each Census occupational group are selected from a list of all jobs in the occupational group with probability of selection proportional to the establishment's employment in the job. Data are collected for the selected jobs each quarter for as long as the establishment remains in the sample. Comparing the employment cost over time of a selected job within an occupational group within an establishment eliminates the effects of employment shifts between jobs within an occupational group or between establishments within an industry.

Establishments are kept in the sample about 4 years, then routinely replaced. This procedure reduces the burden on individual responding establishments and ensures that the establishment sample is representative of the universe it is designed to cover.

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[1] For a discussion of the economic basis of a measure of labor cost such as the ECI, see Jack E. Triplett, "Introduction: An Essay on Labor Cost," in Jack E. Triplett, ed., *The Measurement of Labor Cost* (Chicago, University of Chicago Press for the National Bureau of Economic Research, 1983), pp. 1-60.

[2] For a more detailed examination of the ECI sample design, see G. Donald Wood, Jr., "Estimation Procedures for the Employment Cost Index," *Monthly Labor Review*, May 1982, pp. 40-42.

Data are collected for 12,000 jobs in about 2,200 establishments in the private nonfarm economy and for 3,600 jobs in about 700 establishments in State and local governments.

Data collection

Initial data collection is carried out by personal visits to selected establishments by BLS economists. The first task is to select (with probability of selection proportional to employment size) the individual jobs for which data are to be collected.

Wage and benefit information is then collected for each of the selected jobs. Wages are expressed as an hourly rate, even for workers paid on some other basis, such as salaried employees or employees paid under an incentive wage system. Straight-time wage and salary rates, the wage measure, are total earnings before payroll deductions, excluding premium pay for overtime, weekend, holiday, and late shift work. Production bonuses, incentive earnings, commission payments, and cost-of-living adjustments are included in straight-time wage and salary rates.

Data are collected on 23 separate benefits. The benefits include:

Paid leave—Paid vacations, holidays, sick leave, and other paid leave;

Supplemental pay—Premium pay for overtime and work on weekends and holidays, shift differentials, and nonproduction bonuses;

Insurance benefits—Life, health, and sickness and accident insurance;

Retirement and savings benefits—Pension and other retirement plans and savings and thrift plans;

Legally required benefits—Social Security, railroad retirement and supplemental retirement, railroad unemployment insurance, Federal and State unemployment insurance, workers' compensation, and other legally required benefits such as State temporary disability insurance; and

Other benefits—Severance pay, supplemental unemployment benefit plans, and merchandise discounts in department stores.

Excluded from both wages and salaries and employee benefits are such items as payments in kind, free room and board, and tips.

The benefit data collected for each surveyed job include information on benefit practices, employer expenditures, and workweeks. This information is used to calculate the employer's cost in cents per hour worked and is added to the hourly wage rate to obtain total compensation cost per hour worked for each job.

After the initial data are collected, the establishments are mailed forms containing the information that they provided on wage and benefit provisions and costs, and are asked to update this information on a quarterly basis. The reference period for the data collection is the pay period which includes the 12th of the months of March, June, September, and December.

Presentation

ECI statistics are regularly published for the reference months of March, June, September, and December. The data are presented in index number form with June 1981 as the base and as 3- and 12-month percent changes. The statistics appear quarterly in a news release in the month following the reference month. Published series as of September 1985, are shown below. Over time, the number of series published will expand, especially in the service-producing sectors of the economy. For example, in 1985 publication began for wage and salary and compensation cost changes in health services in the private sector, in State and local governments, and in the two combined, and for transportation separately for the private sector.

Tables from the news release (see figures 7-1 through 7-5) appear in the monthly BLS publication *Current Wage Developments* (CWD). A complete historical listing appears each year in the May issue of CWD. Tables covering the previous nine quarters of data for all series appear in the *Monthly Labor Review*.

Comparisons with other series

The ECI measures the change in compensation over time, but does not estimate wage or compensation levels. Most of the other series discussed in this bulletin measure the level and structure of wages or earnings as of a specific date. Therefore, in most cases the ECI and other series are complementary, with the other series describing the structure at a point in time and the ECI describing how the structure changes over time. Changes calculated from the levels differ, of course, from the change in the ECI, for a number of reasons. The most important is the changes in the averages are affected by employment shifts between industries and occupations with different pay levels. There are two other differences, depending on the series. Average Hourly Earnings (AHE) (see chapter 3), for instance, excludes some workers—white-collar workers in manufacturing, mining, and construction, and supervisory workers in the rest of the private nonfarm economy. Both the AHE and Median Weekly Earnings (MWE) (see chapter 4) exclude nonwage costs.

The Compensation Per Hour series (CPH) prepared by the Bureau's Office of Productivity and Technology (see chapter 8) differs from the ECI in a number of ways, but the most important is that the CPH is a measure of the change in average compensation rather than the change in the compensation rate for a fixed set of jobs. Like the AHE and MWE series, the CPH is affected by employment shifts between industries and occupations with different compensation levels.

ECI Series Published as of September 1985

Series	*Wages and salaries*	*Compensation*[1]
All civilian workers[2]	*	*
White-collar workers	*	*
Blue-collar workers	*	*
Service Workers	*	*
Goods-producing industries[3]	*	*
Manufacturing	*	*
Service-producing industries[4]	*	*
Services	*	*
Health services	*	*
Public administration[5]	*	*
Nonmanufacturing	*	*
Private industry workers[6]	*	*
White-collar workers	*	*
Professional and technical workers	*	
Managers and administrators	*	
Sales workers	*	
Clerical workers	*	
Blue-collar workers	*	*
Craft and kindred workers	*	
Operatives, except transport	*	
Transport operatives	*	
Nonfarm laborers	*	
Service workers	*	*
Goods-producing industries[3]	*	*
Construction	*	
Manufacturing	*	*
Durable goods	*	
Nondurable goods	*	
Service-producing industries[4]	*	*
Transportation and public utilities	*	*
Transportation	*	*
Public utilities	*	*
Wholesale and retail trade	*	*
Wholesale trade	*	
Retail trade	*	
Finance, insurance, and real estate	*	*
Service industries	*	*
Health services	*	*
Union workers	*	*
Goods-producing industries[3]	*	*
Service-producing industries[4]	*	*
Manufacturing	*	*
Nonmanufacturing	*	*
Nonunion workers	*	*
Goods-producing industries[3]	*	*
Service-producing industries[4]	*	*
Manufacturing	*	*
Nonmanufacturing	*	*
Northeast	*	*
South	*	*
Midwest (formerly North Central)	*	*
West	*	*
Metropolitan areas	*	*
Other areas	*	*
State and local government workers	*	*
White-collar workers	*	*
Blue-collar workers	*	*
Service industries	*	*
Schools	*	*
Elementary and secondary	*	*
Hospitals and other services[7]	*	*
Health services	*	*
Public administration[5]	*	*

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[1] Compensation cost per hour worked includes wages, salaries, and employer costs for employee benefits.

[2] Includes private industry and State and local government workers; excludes farm, household, and Federal Government workers.

[3] Includes mining, construction, and manufacturing.

[4] Includes transportation, public utilities, trade, finance, insurance, real estate, services, and, where applicable, public administration.

[5] Consists of legislative, judicial, administrative, and regulatory activities.

[6] Excludes farm and household workers.

[7] Includes, for example, library, social, and health services.

Uses and limitations

The ECI is used in analysis of the inflationary process, and the changing structure of wages and compensation. Because the ECI is constructed in such a way as to provide data for subseries—by industry, occupation, union status, and region[3]—that are defined to be consistent with the aggregate series, it is possible to identify the source of wage and compensation change pressures.

Although the ECI was developed for economic analysis and the formation and evaluation of public policy, it is used for administrative purposes as well. Its clear definitions and firm foundation in economic theory make it an attractive series to use for such purposes as escalating the labor portion of long-term contracts and adjusting wage and compensation rates between labor negotiations.

The ECI is based on a limited sample and, although all workers are represented, only aggregate subseries can be published. This places limits on the type of analysis that can be carried out on the changing structure of wages. Although the ECI program does not publish levels, levels data are available for most of the other series discussed.

The ECI is based on data collected from a sample of establishments. Had another sample been selected, a different estimate would result. The variation in the estimates between different samples is called sampling variation. Sample variation falls as the sample size increases. Thus, the magnitude of sample variation can be controlled by changing the sample size. The sample variation for the ECI currently is being estimated and will be available in 1987.

The ECI also is subject to measurement errors. Data from all units in the sample may not be collected, or establishments may be unwilling or unable to provide the necessary data. Errors may also occur in reporting, recording, or processing the data. Measurement errors are controlled in a variey of ways including maintaining a professional and highly trained collection staff, careful review of collected data, and comprehensive computer edits.

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[3] The union status and region series are not strictly consistent with the aggregate series over time. See Wood, "Estimation Procedures."

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Figure 7.1

COMPENSATION

Table 9. Employment Cost Index by occupation and industry group[1]

(Not seasonally adjusted)

Series	Indexes (June 1981 = 100)			Percent changes for					
				3 months ended			12 months ended		
	Mar. 1984	Dec. 1984	Mar. 1985	Mar. 1984	Dec. 1984	Mar. 1985	Mar. 1984	Dec. 1984	Mar. 1985
Civilian workers[2]	119.8	123.9	125.5	1.7	1.2	1.3	5.8	5.2	4.8
Workers, by occupational group									
White-collar workers	120.9	125.5	127.3	1.7	1.2	1.4	6.3	5.6	5.3
Blue-collar workers	117.7	120.9	122.2	1.6	1.1	1.1	4.8	4.4	3.8
Service workers	122.0	126.8	127.8	2.4	1.8	.8	6.7	6.5	4.8
Workers, by industry division									
Manufacturing	117.9	122.0	123.9	1.6	1.3	1.6	4.8	5.2	5.1
Nonmanufacturing	120.7	124.8	126.2	1.8	1.2	1.1	6.3	5.2	4.6
Services	125.0	130.9	131.9	2.0	1.6	.8	7.2	6.8	5.5
Public administration[3]	122.9	128.6	130.1	1.2	1.3	1.2	5.8	5.9	5.9
Private industry workers[4]	119.0	122.7	124.2	1.7	1.3	1.2	5.7	4.9	4.4
Workers, by occupational group									
White-collar workers	119.9	123.9	125.8	1.7	1.2	1.5	6.3	5.1	4.9
Blue-collar workers	117.5	120.5	121.9	1.6	1.1	1.1	4.8	4.2	3.7
Service workers	121.5	125.7	126.3	3.1	2.0	.5	6.8	6.6	4.0
Workers, by industry division									
Manufacturing	117.9	122.0	123.9	1.6	1.3	1.6	4.8	5.2	5.1
Nonmanufacturing	119.6	123.1	124.4	1.8	1.2	1.1	6.2	4.8	4.0
State and local government workers	123.9	130.1	131.7	1.6	1.0	1.2	6.4	6.6	6.3
Workers, by occupational group									
White-collar workers	124.5	131.1	132.5	1.5	1.1	1.1	6.4	6.9	6.4
Blue-collar workers	121.9	125.9	128.1	2.3	.7	1.7	6.1	5.6	5.1
Workers, by industry division									
Services	124.5	131.3	132.8	1.5	1.1	1.1	6.6	7.1	6.7
Schools	124.5	132.0	133.4	1.5	1.1	1.1	6.8	7.7	7.1
Elementary and secondary	125.4	133.5	134.4	1.2	1.1	.7	7.0	7.7	7.2
Hospitals and other services[5]	124.4	129.2	131.1	1.5	1.0	1.5	5.9	5.4	5.4
Public administration[3]	122.9	128.6	130.1	1.2	1.3	1.2	5.8	5.9	5.9

[1] The index measures changes in total compensation costs (wages, salaries, and employer costs for employee benefits).

[2] Includes private industry and State and local government workers and excludes farm, household, and Federal government workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Excludes farm and household workers.

[5] Includes, for example, library, social, and health services.

Source: Bureau of Labor Statistics, ***Current Wage Developments***, July 1985.

Figure 7.2

WAGES AND SALARIES

Table 10. Employment Cost Index for wages and salaries only, by occupation and industry group

(Not seasonally adjusted)

Series	Indexes (June 1981 = 100)			Percent changes for					
				3 months ended			12 months ended		
	Mar. 1984	Dec. 1984	Mar. 1985	Mar. 1984	Dec. 1984	Mar. 1985	Mar. 1984	Dec. 1984	Mar. 1985
Civilian workers[1]	117.9	121.7	123.1	1.2	1.2	1.2	5.1	4.5	4.4
Workers, by occupational group									
White-collar workers	119.3	123.5	125.2	1.2	1.1	1.4	5.6	4.7	4.9
Blue-collar workers	115.3	118.2	119.3	1.1	1.0	.9	4.1	3.7	3.5
Service workers	120.0	124.3	124.8	2.2	1.6	.4	6.0	5.9	4.0
Workers, by industry division									
Manufacturing	115.7	119.5	121.0	1.0	1.3	1.3	4.2	4.4	4.6
Nonmanufacturing	118.9	122.6	123.9	1.3	1.1	1.1	5.5	4.4	4.2
Services	123.3	128.9	129.7	1.6	1.3	.6	6.5	6.3	5.2
Public administration[2]	120.4	125.7	127.0	.8	1.0	1.0	5.1	5.3	5.5
Private industry workers[3]	117.2	120.6	122.0	1.2	1.2	1.2	5.0	4.1	4.1
Workers, by occupational group									
White-collar workers	118.5	122.3	124.0	1.1	1.2	1.4	5.6	4.4	4.6
Blue-collar workers	115.1	118.0	119.1	1.1	1.1	.9	4.0	3.6	3.5
Service workers	119.8	123.7	123.8	2.8	2.1	.1	6.1	6.2	3.3
Workers, by industry division									
Manufacturing	115.7	119.5	121.0	1.0	1.3	1.3	4.2	4.4	4.6
Nonmanufacturing	118.0	121.2	122.6	1.3	1.1	1.2	5.4	4.0	3.9
State and local government workers	121.6	127.1	128.4	1.3	.8	1.0	5.6	5.9	5.6
Workers, by occupational group									
White-collar workers	122.2	128.0	129.3	1.3	.7	1.0	5.7	6.1	5.8
Blue-collar workers	119.1	122.5	124.2	1.9	.5	1.4	5.1	4.8	4.3
Workers by industry division									
Services	122.2	128.1	129.4	1.3	.7	1.0	5.8	6.2	5.9
Schools	122.2	128.7	129.9	1.3	.7	.9	6.1	6.7	6.3
Elementary and secondary	122.9	130.2	130.8	1.0	.7	.9	6.1	6.7	6.3
Hospitals and other services[4]	121.9	125.9	127.7	1.1	.6	1.4	4.6	4.4	4.8
Public administration[2]	120.4	125.7	127.0	.8	1.0	1.0	5.1	5.3	5.5

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[1] Includes private industry and State and local government workers and excludes farm, household, and Federal government workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Excludes farm and household workers.

[4] Includes, for example, library, social, and health services.

Source: Bureau of Labor Statistics, *Current Wage Developments*, July 1985.

Figure 7.3

WAGES AND SALARIES

Table 11. Employment Cost Index for wages and salaries, private industry workers,[1] by occupation and industry group
(Not seasonally adjusted)

Series	Indexes (June 1981 = 100)			Percent changes for					
				3 months ended			12 months ended		
	Mar. 1984	Dec. 1984	Mar. 1985	Mar. 1984	Dec. 1984	Mar. 1985	Mar. 1984	Dec. 1984	Mar. 1985
Private industry workers[1]	117.2	120.6	122.0	1.2	1.2	1.2	5.0	4.1	4.1
Workers, by occupational group									
White-collar workers	118.5	122.3	124.0	1.1	1.2	1.4	5.6	4.4	4.6
Professional and technical workers	122.2	127.3	127.7	1.5	1.7	.3	6.4	5.7	4.5
Managers and administrators	118.0	122.2	123.8	2.0	1.0	1.3	5.4	5.6	4.9
Salesworkers	110.2	111.6	116.3	-.9	1.0	4.2	4.3	.4	5.5
Clerical workers	119.8	122.9	124.7	1.3	.7	1.5	5.6	3.9	4.1
Blue-collar workers	115.1	118.0	119.1	1.1	1.1	.9	4.0	3.6	3.5
Craft and kindred workers	116.5	119.4	120.8	1.0	1.2	1.2	3.8	3.5	3.7
Operatives, except transport	114.9	117.9	118.9	1.1	1.1	.8	4.5	3.8	3.5
Transport equipment operatives	111.7	114.0	114.5	1.4	.5	.4	3.4	3.4	2.5
Nonfarm laborers	112.9	115.9	116.7	.7	1.0	.7	3.6	3.4	3.4
Service workers	119.8	123.7	123.8	2.8	2.1	.1	6.1	6.2	3.3
Workers, by industry division									
Manufacturing	115.7	119.5	121.0	1.0	1.3	1.3	4.2	4.4	4.6
Durables	115.7	119.1	120.6	1.1	1.2	1.3	4.1	4.1	4.2
Nondurables	115.8	120.2	121.6	1.0	1.3	1.2	4.4	4.9	5.0
Nonmanufacturing	118.0	121.2	122.6	1.3	1.1	1.2	5.4	4.0	3.9
Construction	113.3	114.4	115.5	.4	.1	1.0	2.6	1.3	1.9
Transportation and public utilities	118.5	120.7	121.7	1.5	.7	.8	5.0	3.3	2.7
Wholesale and retail trade	114.3	118.1	118.8	1.8	1.4	.6	6.3	5.2	3.9
Wholesale trade	118.2	122.9	123.7	1.5	1.8	.7	5.7	5.5	4.7
Retail trade	112.8	116.2	116.9	2.0	1.1	.6	5.2	5.1	3.6
Finance, insurance, and real estate	116.1	115.8	122.0	-.7	.4	5.4	5.0	-.9	5.1
Services	124.7	129.5	129.9	1.9	1.9	.3	7.1	6.2	4.6

[1] Excludes farm and private household workers.

Source: Bureau of Labor Statistics, *Current Wage Developments*, July 1985.

Figure 7.4

COMPENSATION

Table 12. Employment Cost Index, private industry workers, by bargaining status, region, and area size[1]

(Not seasonally adjusted)

Series	Indexes (June 1981 = 100)			Percent changes for					
				3 months ended			12 months ended		
	Mar. 1984	Dec. 1984	Mar. 1985	Mar. 1984	Dec. 1984	Mar. 1985	Mar. 1984	Dec. 1984	Mar. 1985
Workers, by bargaining status									
Union	120.6	123.9	124.8	1.5	1.1	0.7	5.3	4.3	3.5
Manufacturing	119.3	123.2	124.2	1.8	1.3	.8	4.6	5.1	4.1
Nonmanufacturing	121.9	124.5	125.3	1.2	.7	.6	6.1	3.4	2.8
Nonunion	118.0	121.9	123.8	1.8	1.3	1.6	5.8	5.2	4.9
Manufacturing	116.6	120.8	123.6	1.5	1.3	2.3	4.9	5.1	6.0
Nonmanufacturing	118.6	122.4	123.9	1.9	1.4	1.2	6.3	5.2	4.5
Workers, by region									
Northeast	118.9	123.8	125.1	1.2	1.1	1.1	5.6	5.4	5.2
South	119.7	122.2	124.2	2.2	1.2	1.6	6.4	4.4	3.8
Midwest (formerly North Central)	117.2	120.8	122.0	2.2	.9	1.0	5.7	5.3	4.1
West	121.0	124.9	126.8	.8	2.0	1.5	4.9	4.1	4.8
Workers, by area size									
Metropolitan areas	119.4	123.2	124.7	1.7	1.4	1.2	5.8	4.9	4.4
Other areas	116.7	119.8	121.4	1.9	.7	1.3	5.3	4.6	4.0

[1] The index measures changes in total compensation costs (wages, salaries, and employer costs for employee benefits). Farm and household workers are excluded.

[2] Less than .05 percent.

Dashes indicate that data are not available.

NOTE: The indexes for these series are not strictly comparable to those for the aggregate, occupation, and industry series. See explanatory note.

Source: Bureau of Labor Statistics, *Current Wage Developments*, July 1985.

Figure 7.5

WAGES AND SALARIES

Table 13. Employment Cost Index for wages and salaries, private industry workers,[1] by bargaining status, region, and area size

(Not seasonally adjusted)

Series	Indexes (June 1981 = 100)			Percent changes for					
				3 months ended			12 months ended		
	Mar. 1984	Dec. 1984	Mar. 1985	Mar. 1984	Dec. 1984	Mar. 1985	Mar. 1984	Dec. 1984	Mar. 1985
Workers, by bargaining status									
Union	118.1	120.9	121.7	1.0	0.9	0.7	4.6	3.4	3.0
Manufacturing	116.1	119.5	120.4	1.1	1.2	.8	4.2	4.1	3.7
Nonmanufacturing	120.1	122.1	122.8	1.0	.7	.6	5.1	2.7	2.2
Nonunion	116.7	120.4	122.1	1.3	1.3	1.4	5.2	4.5	4.6
Manufacturing	115.4	119.5	121.5	1.1	1.4	1.7	4.2	4.6	5.3
Nonmanufacturing	117.2	120.7	122.3	1.4	1.3	1.3	5.6	4.4	4.4
Workers, by region									
Northeast	117.4	121.9	123.0	.7	1.2	.9	4.8	4.5	4.8
South	117.9	120.2	122.3	1.9	1.0	1.7	5.8	3.9	3.7
Midwest (formerly North Central)	115.5	118.7	119.6	1.7	.8	.8	4.9	4.5	3.5
West	118.8	122.5	124.0	.3	2.1	1.2	4.1	3.4	4.4
Workers, by area size									
Metropolitan areas	117.6	121.0	122.4	1.2	1.3	1.2	5.1	4.1	4.1
Other areas	115.1	118.3	119.6	1.5	.7	1.1	4.5	4.3	3.9

[1] Excludes farm and private household workers.

NOTE: The indexes for these series are not strictly comparable to those for the aggregate, occupation, and industry series. See explanatory note.

Source: Bureau of Labor Statistics, *Current Wage Developments*, July 1985.

Chapter 8. Hourly Compensation Measures of the Office of Productivity and Technology

The Office of Productivity and Technology (OPT) of the Bureau of Labor Statistics produces measures of compensation per hour and real compensation per hour as part of its productivity and cost measurement program. These measures are produced quarterly for U.S. business, nonfarm business, manufacturing (including the durable and nondurable goods subsectors), and nonfinancial corporations, and annually for all major subsectors.[1] Most measures extend back to 1947; nonfinancial corporate measures to 1958.

The hourly compensation and real hourly compensation measures are in index form and designed to emphasize changes in labor costs over time. To compute these measures, OPT requires three separate pieces of data—a compensation measure, a measure of hours, and the Consumer Price Index for All Urban Consumers (CPI-U). Compensation includes employer expenditures for employee wages and salaries, social insurance, and private benefits, plus estimates of these components for the self-employed. Hours are calculated separately for wage and salary workers, the self-employed, and unpaid family workers, then summed to the all person level. Compensation per hour equals estimated compensation divided by these hours. Real hourly compensation is compensation per hour divided by the CPI-U.

Data sources and methods

The OPT measures of hourly compensation combine BLS hours data with compensation information, primarily from the Bureau of Economic Analysis (BEA), U.S. Department of Commerce.

Compensation. BEA develops employee compensation data as part of the national income accounts, including both direct payments and supplements. Direct payments include wages and salaries, commissions and tips, bonuses, paid leave, and payments in kind. Supplements to direct payments include items such as employer contributions for social insurance, private pension plans, group health and life insurance, compensation for injuries, and pay for military leave.

Quarterly employee compensation data from BEA are seasonally adjusted and presented at annual rates. Total employee compensation for the U.S. economy is adjusted to the business level by subtracting the compensation of employees working in private households and nonprofit institutions and all government employees not working in government enterprises.

BEA compensation measures cover only wage and salary workers and omit the cost of labor provided by proprietors. Because omission of these workers would seriously underestimate labor costs, particularly in sectors such as farming and retail trade where proprietors contribute a substantial portion of labor time, OPT adds an imputed payment for the labor services of proprietors to the BEA measures. The hourly labor compensation of proprietors in a given sector is estimated by assuming it is the same as that of the average employee in that sector. (Although no compensation is calculated for the labor contributed by unpaid family workers, their hours are included when calculating hourly compensation.)

Hours. The hours data used in the OPT compensation measures come from various surveys. In general, hours of all persons are computed by multiplying employment by average weekly hours at the 2-digit Standard Industrial Classification level each month.[2] These weekly hours are converted to annual rates by multiplying them by 52. Seasonal factors are computed using a time span and method which correspond to the procedure for seasonally adjusting compensation used by the BEA. This avoids influencing hourly compensation measures through the use of different seasonal adjustments for the numerator and denominator of the hourly compensation ratios. The seasonally adjusted results are summed to totals for business, nonfarm business, nonfinancial corporations, and manufacturing; quarterly averages are computed from 3 monthly levels. Annual averages are computed based on 12 months of data.

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[1] Major subsectors are: Farm; mining; manufacturing; construction; transportation; communications; electric, gas, and sanitary utilities; wholesale trade; retail trade; finance, insurance, and real estate; services; and government enterprises.

[2] Data for the years prior to 1972 were processed at the 1-digit SIC sector level.

Hours of wage and salary workers (the all-employee series) in the business sector and nonfarm business, nonfinancial corporate and major nonmanufacturing sectors come primarily from the BLS Current Employment Statistics (CES) program, which collects data monthly on employment and average weekly hours of production or nonsupervisory workers in nonagricultural establishments (see chapter 3). The CES statistics represent hours paid, which include vacation and leave time, rather than hours at work, and are based on payroll records from a sample of establishments. The reference period for these data is the payroll period including the 12th of the month. Information from the BLS Employment and Wages program (see chapter 5) is used to supplement data in the nonfarm portion of the agricultural sector, primarily agricultural services.

In manufacturing, total employee hours are computed separately for production and nonproduction workers and then combined. Because the CES covers only production workers, average weekly hours for nonproduction workers are based on BLS studies of wages and supplements which provided information on the regularly scheduled workweek of white-collar employees. In nonmanufacturing sectors, supervisory employees are assigned the same weekly hours as nonsupervisory employees of the same sector.

Measures of hours paid are developed for each major sector. To bring these hours into conformity with the business sector concept, the hours of employees of nonprofit institutions are subtracted from sector totals. Hours of employees are treated as homogeneous, with no distinction made between employees with different levels of skill or rates of pay.

Since the CES establishment survey covers only nonagricultural wage and salary workers, statistics from the Current Population Survey (CPS) are used for other types of workers (farm workers, proprietors, and unpaid family workers). The hours of these persons are added to the employee hour figures to develop estimates of the hours of all persons in the business, nonfarm business, manufacturing, and major nonmanufacturing sectors. In the nonfinancial corporate sector, where there are no proprietors or unpaid family workers, data from the CPS on hours of wage and salary workers on farms are needed to complete the all-employee measure. Statistics from the CPS survey represent hours at work, not hours paid as in the CES, and are based on a monthly survey of a nationwide sample of households conducted for BLS by the Bureau of the Census. (See chapter 4.)

Presentation

Hourly and real hourly compensation measures are produced in each of the 2 months following the reference quarter by the Office of Productivity and Technology and published in the BLS "Productivity and Costs" news releases. (See figures 8-1 and 8-2.) Preliminary measures for business, nonfarm business, and manufacturing are first announced in January, April, July, and October with revised measures for these sectors and preliminary measures for nonfinancial corporations in February, May, August, and November. These data also appear in tables 29 through 32 of the *Monthly Labor Review*, tables C-10 and C-11 of *Employment and Earnings*, and in each edition of the *Handbook of Labor Statistics*.

The measures are presented as indexes with percent changes shown from the previous quarter (at annual rates), and from the same quarter in the previous year. Year-to-year changes are computed by comparing annual averages, rather than fourth quarter-to-fourth quarter movements.

Indexes for major subsectors, which are produced only annually, are not published but are available upon request from the Office of Productivity and Technology. Computer tapes of regularly published measures can be obtained by contacting the Division of Planning and Financial Management, Bureau of Labor Statistics, Washington, D.C., 20212. Special tapes for other measures may be available from the Office of Productivity and Technology.

Uses and limitations

The hourly compensation series produced by OPT are designed for use in conjunction with related productivity and cost measures. These series are useful for forecasting and analysis of prices, wages, profits, and costs of production. However, because hourly compensation measures are presented in index form, their use is limited to the analysis of changes over time.

Hourly compensation measures are especially relevant to discussions of productivity and production costs, and emphasize employer expenditures rather than employee income. Unit labor cost (compensation per unit of output) represents a major portion of total unit cost and changes in these costs reflect the combined effects of movements in compensation per hour and productivity (output per hour). An increase in compensation per hour tends to increase unit costs, while an increase in labor productivity tends to reduce these costs. Therefore, the effect of rising compensation on prices or profits is dependent on concurrent movements in productivity.

Indexes of hourly compensation help to provide an understanding of what is occurring in the economy. For example, between 1978 and 1981, real hourly compensation in the nonfarm business sector fell in 12 of the 16 quarters, a series of declines which was unprecedented in the postwar period. Largely as a result of these declines, real hourly compensation had not yet recovered to 1978 levels by mid 1985. The longest period previously required to recover from a decline in real hourly compensation had been 12 quarters, from the second quarter of 1973 to the second quarter 1976.

One limitation of the hourly compensation measures stems from the manner in which the indexes are extrapolated from compensation per hour of all employees to compensation per hour of all persons. Since labor compensation data are reported directly only for employees and must be imputed for proprietors, the all-persons measures are not as reliable as those for all employees, although they are obviously more comprehensive.

The BLS series on labor hours is mainly based on hours paid for and includes paid vacations, sick leave, and holidays. A more appropriate measure of compensation for use with productivity measures would be based on hours at work, but historical data relating hours at work to payroll hours are scanty. To improve the hours measure, OPT began conducting a survey in 1982 which measures actual hours at the workplace. When enough data are available to produce a time series, they will be incorporated into the hours portion of the compensation measures.[3]

OPT hourly compensation measures differ from the Bureau's Employment Cost Index (see chapter 7) in that they do not attempt to hold industrial or occupational composition of the work force constant. A change in either will be reflected as a change in hourly compensation. Over the long term, the aggregate hourly compensation measures are affected by major reallocations of resources. For instance, the shift in employment from the farm sector to the nonfarm sector, where average hourly compensation has been more than twice as high, has resulted in a long-term growth in business hourly compensation which is higher than in either of the component sectors.

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[3] See Kent Kunze, "A New BLS Survey Measures the Ratio of Hours Worked to Hours Paid," *Monthly Labor Review*, June 1984, pp. 3-7, for more information on the survey and some preliminary indications of findings.

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U.S. Department of Labor, *Trends in Multifactor Productivity*, Bulletin 2178, September 1983, pp. 52-55.

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Figure 8.1

Table 1. Business sector: Productivity, hourly compensation, unit labor cost, and prices, seasonally adjusted

Year and quarter	Output per hour of all persons	Output	Hours of all persons	Compensation per hour (1)	Real compensation per per hour (2)	Unit labor cost	Unit non-labor payments (3)	Implicit price deflator (4)
	Indexes 1977 = 100							
1984:								
I	105.7	117.8	111.4	166.7	98.6	157.7	151.6	155.6
II	107.0	121.0	113.0	167.5	98.2	156.5	157.2	156.7
III	107.2	121.5	113.4	169.3	98.3	158.0	158.5	158.2
IV	108.0	123.0	113.9	171.1	98.5	158.4	160.2	159.0
Annual	107.0	120.8	112.9	168.6	98.4	157.6	157.0	157.4
1985:								
I	107.1	123.1	114.9	173.3	99.0	161.9	159.5	161.1
	Percent change from previous quarter at annual rate (5)							
1984:								
I	4.0	11.4	7.2	6.2	0.8	2.1	7.0	3.7
II	4.9	11.2	6.0	1.9	-1.8	-2.9	15.4	2.9
III	0.6	1.8	1.2	4.4	0.7	3.7	3.4	3.6
IV	3.1	5.0	1.8	4.4	0.8	1.2	4.3	2.2
Annual	3.2	8.8	5.4	4.2	0.0	1.0	7.9	3.2
1985:								
I	-3.5	0.1	3.7	5.2	1.8	9.0	-1.6	5.3
	Percent change from corresponding quarter of previous year							
1984:								
I	3.5	10.2	6.5	4.1	-0.4	0.6	8.4	3.0
II	3.3	9.9	6.4	4.0	-0.3	0.7	8.7	3.3
III	2.7	8.0	5.1	4.6	0.4	1.9	7.1	3.6
IV	3.2	7.3	4.0	4.2	0.1	1.0	7.4	3.1
Annual	3.2	8.8	5.4	4.2	0.0	1.0	7.9	3.2
1985:								
I	1.2	4.4	3.2	3.9	0.4	2.7	5.2	3.5

[1] Wages and salaries of the employees plus employers' contributions for social insurance and private benefit plans. Except for nonfinancial corporations, where there are no self-employed, data also include an estimate of wages, salaries, and supplemental payments for the self-employed.

[2] Compensation per hour adjusted for changes in the Consumer Price Index for All Urban Consumers.

[3] Nonlabor payments include profits, depreciation, interest, rental income, and indirect taxes.

[4] Current dollar gross product divided by constant dollar gross product.

[5] Quarterly changes: percent change compounded at annual rate from the original data rather than index numbers. Annual changes: percent change between annual average levels.

SOURCE: BLS News release, "Productivity and costs, first quarter 1985," (USDL 85-215, May 29, 1985)

Figure 8.2

Table 2. Nonfarm business sector: Productivity, hourly compensation, unit labor cost, and prices, seasonally adjusted

Year and quarter	Output per hour of all persons	Output	Hours of all persons	Compensation per hour (1)	Real compensation per per hour (2)	Unit labor cost	Unit non-labor payments (3)	Implicit price deflator (4)
	Indexes 1977 = 100							
1984:								
I	105.2	118.0	112.3	166.5	98.4	158.3	152.2	156.3
II	106.6	121.0	113.6	168.0	98.4	157.6	156.8	157.3
III	106.3	121.3	114.1	169.5	98.4	159.5	158.0	159.0
IV	106.9	122.7	114.8	171.0	98.5	160.0	160.3	160.1
Annual	106.2	120.7	113.6	168.7	98.4	158.8	156.9	158.2
1985:								
I	106.2	122.9	115.7	173.3	99.0	163.2	160.9	162.4
	Percent change from previous quarter at annual rate (5)							
1984:								
I	2.9	10.3	7.2	6.1	0.7	3.1	2.3	2.8
II	5.5	10.6	4.8	3.7	0.0	-1.7	12.5	2.8
III	-1.1	0.7	1.8	3.6	-0.1	4.7	3.1	4.2
IV	2.2	4.7	2.4	3.7	0.1	1.4	5.9	2.9
Annual	2.7	8.5	5.7	4.1	-0.1	1.4	6.7	3.1
1985:								
I	-2.5	0.8	3.3	5.4	2.1	8.1	1.6	5.9
	Percent change from corresponding quarter of previous year							
1984:								
I	3.5	10.6	6.9	4.0	-0.5	0.4	8.3	2.9
II	2.9	9.7	6.6	4.0	-0.3	1.1	7.1	3.0
III	2.1	7.6	5.4	4.4	0.2	2.3	5.7	3.4
IV	2.4	6.5	4.0	4.3	0.2	1.9	5.9	3.2
Annual	2.7	8.5	5.7	4.1	-0.1	1.4	6.7	3.1
1985:								
I	1.0	4.1	3.1	4.1	0.5	3.1	5.7	3.9

See footnotes table 1.

SOURCE: BLS News Release, "Productivity and costs, first quarter 1985," (USDL 85-215, May 29, 1985)

Chapter 9. Measuring Negotiated Wage and Benefit Changes

Two types of information on wage and benefit changes negotiated through collective bargaining are produced by the BLS current wage developments program:

—Monthly listings by employer and union, containing a description of the negotiated changes (see figure 9-1); and

—Statistical summaries of aggregate changes.

There are two surveys of collective bargaining situations involving 1,000 workers or more, one of private industry and another of State and local government. Survey data include adjustments stemming from new contract settlements (see figures 9-2 and 9-3), deferred changes (that is, those changes provided for in contracts reached earlier but which go into effect at a later period), and changes resulting from cost-of-living adjustments (COLA's). (See figure 9-4.) Statistical summaries are compiled quarterly for private industry and semiannually for State and local government.

Background

BLS began the systematic collection of information on wage and benefit adjustments resulting from collective bargaining in 1948. Information was first published monthly and showed the company, union, number of workers under each contract settlement, and the wage and benefit terms of the new contract. Data on wage changes were put in statistical form and published intermittently between 1949 and 1954; a regular statistical series began in 1954. This series provides information on median wage changes in bargaining units of 1,000 workers or more. Initially it was limited in its industrial coverage, however, and excluded construction, services, finance, and government. It was expanded to cover adjustments in benefits as well as wages in units of 10,000 workers or more in 1965 and in units of 5,000 or more in 1966. Also in 1966, the industrial scope of the series was expanded to cover all private nonagricultural industries. The series was further enhanced in 1968 when mean as well as median adjustments were computed for the first time. A separate series on negotiated wage and benefit adjustments in State and local government was begun in 1979, covering bargaining units of 5,000 workers or more. In 1984, this series was expanded to include wage adjustments in units of 1,000 workers or more. First publication of these data was in 1985.

Concepts and products

The current wage developments program measures the size of negotiated wage adjustments in major collective bargaining situations (covering 1,000 workers or more) and compensation (wage and benefit cost) adjustments for situations covering 5,000 workers or more for all industries except construction. In construction, compensation adjustments are computed for all bargaining units of 1,000 workers or more.

Negotiated wage rate changes are measured for individual bargaining situations. A bargaining situation may consist of workers in a single location or in several locations who are represented by one or more unions and who may be employed by one or more firms. If the employers and unions negotiate together for at least 1,000 workers, a bargaining situation exists. For example, a group of employers each with fewer than 1,000 workers but collectively with more than 1,000 constitutes a bargaining unit if the employers negotiate as a group with one or more unions who represent their employees.

In State and local government, three criteria must be met for an employer-employee relationship to constitute a bargaining unit: 1) A labor organization (union or employee association) is recognized as a bargaining agent for employees; 2) wages are determined by collective bargaining; and 3) agreements are reflected in binding contracts between the parties.

Two kinds of data on negotiated wage and benefit adjustments are produced by the current wage developments program: Settlement data and effective wage change data. Settlement data measure wage and compensation adjustments—increases, decreases, and freezes—specified in agreements reached during the reference period (for example quarter or year.) These adjustments, expressed as percent changes in existing wages or compensation, are computed for the first year of the contract and as an average annual rate of change over the life of the contract. They do not take into account future changes that may occur as a result of COLA stemming from changes in the Consumer Price Index because these are unknown at the time of settlement.

Effective wage changes are those that take place during the reference period. They include one or more of the following: Changes specified in settlements reached during the reference period and made effective during that period; changes specified in settlements reached earlier but deferred to the reference period; and cost-of-living adjustments made during the reference period.

Settlement data reflect the economic status of the parties at the time of bargaining and their expectations of the future. Changes specified to take place during the second or third year of a contract are usually, but not always, implemented. When economic circumstances dictate, the parties may agree to open the contract for negotiation before it expires. Some contract reopenings may be provided for by the agreement (scheduled) or may be unscheduled. In either case, the results of contract reopening are treated as new settlements.

Survey methods

Data are obtained for all collective bargaining units within the scope of the series. Calculations of the size of negotiated wage and benefit changes are based on actual characteristics of the work force covered by the agreements at settlement. These include average hourly earnings in the bargaining unit, and the distribution of workers by occupation, earnings, and length of service. When estimates of compensation changes are made, data are also obtained on employer costs for various benefits. Data on work force characteristics and benefit costs are usually obtained directly from the companies as part of a variety of BLS surveys. Data for these surveys are collected under a pledge that they will be kept confidential and not released outside the Bureau. Other data sources for these calculations include the file of union contracts maintained by BLS, the file of pension and insurance benefit agreements and financial information maintained by the Department of Labor's Office of Pension and Welfare Benefit Programs, and company annual reports. Secondary sources, including general circulation newspapers and periodicals and union, management, and trade publications, are used in producing listings of agreements.

Estimating procedures

Items for which costs are determined. The current wage developments program is confined to measuring how settlements change employee compensation, that is, wages and benefits. Included in the calculations are: Changes in wage rates; modifications in premium pay, paid leave, and severance pay; and adjustments in employer payments for pension, health and welfare, and supplemental unemployment benefits, excluding the costs of administering these benefits. The costs of changes in contract provisions specifying paid time for clothes change, washup, and lunch periods are also included. Changes in nonproduction bonuses and similar lump-sum payments are excluded, because they do not affect ongoing rates of pay. Also excluded are items which, although related to compensation, are not normally considered part of compensation, such as per diem payments, moving expense reimbursements, payments for safety clothing, and provision of facilities or services such as parking lots and health units. Other terms of a union-management agreement besides wage and benefit provisions may affect an employer's costs. For example, changes in staffing requirements, which may change employer costs, are not reflected in the data because they do not affect employee compensation.

Indirect effects of settlements are ignored; factors such as possible extension of settlement terms to nonunion workers in the same firm or to members of other bargaining units are not considered. Similarly, although the cost of providing lengthened vacations is measured (by the wages and salaries paid for the additional time off), the cost of hiring vacation replacements, if necessary, is not measured.

Determination of costs. A value is placed on settlements at the time they are reached. Therefore, changes in costs attributed to them are estimates of outlays to be made in the future. The estimates are made on the assumption that conditions existing at the time the contract is negotiated will not change. For example, it is assumed that methods of financing pensions will not change, and that expenditures for insurance will not change except as a result of altered benefit provisions or modified participation because of changes in company contributions. It is also assumed that the composition of the labor force will not change.

Except for any "guaranteed cost-of-living increases," which are treated as deferred adjustments, possible wage rate changes that may result from COLA clauses are excluded because future changes in the Consumer Price Index, upon which they are based, are unknown.

Estimates of compensation change are based on the actual characteristics of the workforce affected by the settlements, taking account of their actual age, length of service, sex, and skills. The estimates, therefore, recognize that the choice in incorporating alternative benefit changes into contracts is affected by their costs, which, in turn, are affected by the character of the work force. For example, an extra week of vacation after 15 years of service will cost very little when only 10 percent of the workers have that much service, but will add about 1 percent to the annual cost of straight-time pay for working time when half of the workers have been employed for 15 years or longer.

Changes in wage rates affect costs for certain benefits that are linked to wage rates, such as paid leave, Social Security, and pensions based on earnings. This effect, variously referred to as "creep," "bulge," or "rollup," is reflected in estimates of changes in compensation.

Many items in a collective bargaining agreement are priced without difficulty. This is particularly true when settlement terms are expressed as cents-per-hour adjustments as, for example, a 20-cent-an-hour general wage increase or a 5-cent increase in employer contributions to a health and welfare fund. These stipulated cents-per-hour figures are used as the costs of the settlement provisions. Percentage wage adjustments are converted to cents-per-hour figures on the basis of current average straight-time hourly earnings in the bargaining unit.

The cost of an additional holiday is estimated less directly by prorating average pay for a normal workday over the number of annual working hours per employee. The cost of an additional week of vacation is estimated similarly, but the number of employees who qualify for the additional vacation must be known.

Other settlement terms are more difficult to price. For example, the cost of an unfunded severance pay plan depends not only on plan provisions but on the frequency of layoffs, which may be difficult to estimate. Costs of pension improvements are particularly hard to estimate because employers often have considerable discretion in funding their obligations. Estimates are based on the assumption that a pension benefit change will change expenditures for current service proportionately. Because employer contributions for pensions frequently vary widely from year to year, outlays in several past years are examined to develop a measure of current payments.

For most contract provisions, cost estimates are of actual cash outlays to be made by employers. In the case of paid leave provisions, an improvement may entail time off for workers without additional cash payments by the employer. However, the cost for each hour worked will rise. This change, therefore, is the cost effect of the settlement provision. For a reduction in the basic workweek, the increase in hourly rates needed to maintain weekly pay is the major item priced. A reduced basic workweek may be accompanied by additional overtime work; unless this overtime is guaranteed in the agreement, it is ignored in the cost estimate.

Expressing costs. The cost of a given settlement is obtained by summing the costs (in cents-per-hour worked) of each wage change (and, if measured, benefit change). This sum is then expressed as a percent of average wages (or compensation) per work hour before the settlement.

In computing averages, the overall percentage change generated by each settlement is weighted by the number of workers affected. Pricing of individual settlements, however, is not disclosed; published data are averages of the costs of individual settlements. The sum of the worker-weighted changes is divided by the total number of workers under all settlements whether or not they received wage or compensation changes as a result of the settlement. The result is the average percent *adjustment*, reflecting settlements that increased, decreased, or did not change wages or compensation. Additional data on the average of increases alone, or of decreases alone may be published. Effective wage adjustment data are handled in similar fashion. Collective bargaining agreements generally are for 2-year periods or longer. The total percent change over the contract term is expressed as an annual rate to permit comparison among agreements for differing time spans as well as to facilitate the use of the data in conjunction with other statistical series. The annual rates of increase take into account the compounding of successive changes. In addition, the Bureau computes first-year adjustments in wages (or compensation), because they are often different from the average annual adjustment over the full term of the agreement.

Presentation

The listing of current changes in wages and benefits in individual collective bargaining situations is published monthly in the periodical *Current Wage Developments* (CWD). Grouped by industry, the listing includes the name of the employer and the union, the number of workers involved, the amount and effective date of the wage change, details of selected contract changes, and the reason for the change (that is, whether it is a new settlement, a deferred change, or a COLA).

Statistical summaries of preliminary data on settlements and effective wage adjustments are issued for both private industry and State and local government. Private industry data are issued for each calendar quarter and appear in *Major Collective Bargaining Settlements in Private Industry*, a news release published in the month following each quarter. State and local government data, issued for the first half of the year and for the full year, appear in *Major Collective Bargaining Settlements in State and Local Government*, a news release published about 6 weeks after the reference period (i.e., in August and February).

Final detailed statistics for the year and an analysis of them are published in CWD—in the April issue for private industry and in the May issue for State and local government.

For private industry, separate data are published for manufacturing industries, nonmanufacturing industries, and construction. The data are further categorized by COLA coverage. For State and local government, separate data are published for each of the two levels of government.

Uses and limitations

The series on wage and compensation adjustments resulting from collective bargaining is one of the Federal Government's principal economic indicators. As such, it is used by a variety of Federal agencies including the Council of Economic Advisers, the Federal Reserve System, and the Congressional Budget Office, for a broad range of purposes including determining trends in compensation and forecasting changes in wage and salary income and gross national product. The statistics, as well as the monthly listings, are used by the Federal Mediation and Conciliation Service; State and local government agencies; employer and employee organizations; economic consultants; and researchers and practitioners in industrial relations, collective bargaining and economic forecasting.

Users of the compensation data should remember that the data do not measure all changes in average hourly expenditures for employee compensation. In calculating compensation change estimates, a value is put on the benefit portion of the settlements at the time they are reached on the assumption that conditions existing at the time of settlement will not change. The data are estimates of negotiated change, not total changes in employer cost.

However, changes in the existing conditions do occur—in the volume of overtime and shift work, in the composition of the work force, in the level and stability of employment, and in factors affecting incentive earnings, for example. These changes influence outlays for employee compensation. In some instances, they are introduced by management specifically to offset costs of new labor agreements. In other cases, changes result from economic or technological developments that are independent of collective bargaining but may influence the cost of the union-management settlement.

Data on negotiated compensation adjustments in private industry are not strictly comparable with those in State and local government for several reasons: COLA clauses cover over one-half the workers under major agreements in private industry, but are rare in State and local government contracts; pension plans, a frequent subject of bargaining in private industry, are often prescribed by law in State and local government and thus are outside the scope of bargaining; and, the need for legislative allocation of funds to finance negotiated compensation packages in State and local government is not a factor in private industry.

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References

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Lacombe, J.J. II, and J.R. Conley, "Major Agreements in 1984 Provide Record Low Wage Increases," *Monthly Labor Review*, April 1985, pp. 39-45.

Figure 9.1

Selected Wage and Benefit Changes

Current provisions of collective bargaining agreements are summarized below, as are some wage and benefit changes for nonunion workers. Underlined entries in the "Current general wage increase and effective date" column indicate new settlements or new unilateral management decisions.

Coverage generally is limited to actions affecting 1,000 workers or more. Information on government employees appears in various sections of this listing, depending on the function of their unit. The information presented is drawn mainly from secondary sources, such as newspapers, union publications, and trade journals. When possible, the Bureau of Labor Statistics verifies settlement terms by checking the agreement. Unions are affiliated with the AFL-CIO except where noted as Independent (Ind.).

Employer, union, and number of workers covered	Current general wage increase and effective date	Related information
		MANUFACTURING
FOOD AND KINDRED PRODUCTS		
Swift & Co. Various locations United Food and Commerical Workers—1,200	25 cents 7/1/85	Deferred increase negotiated 7/84 (CWD Feb. 1985).
CPC International, Inc. Various locations Oil, Chemical and Atomic Workers—1,200	26 cents 7/1/85	Deferred increase negotiated 8/25/83 (CWD Aprl 1984); see CWD July 1984.
E.J. Brach & Sons, Inc. Chicago, IL Teamsters (Ind.)—3,200	5 percent 7/15/85	Deferred increase negotiated 7/83 (CWD Nov. 1984).
Campbell Soup Co. Sacramento, CA Teamsters (Ind.)—1,400	4.3 percent 5/6/85	3-year agreement negotiated 5/85 also provided: 3.7 percent in 5/86 and 4.4 percent in 5/87; $3.40 month employee payment for dependent medical benefit coverage 5/85 (previously, employee paid nothing) increasing to $7.60 a month 5/87—company to pay full cost of long-term disabiluty plan (was 50/50) as a "trade off;" improved accidental death and dismemberment and life insurance
beneifts; see CWD May 1984.		
TEXTILE MILL PRODUCTS		
J.P. Stevens & Co. Roanoke Rapids, NC Clothing and Textile Workers—3,500	See next column	3-year agreement negotiated 5/26/85 provided: no changes in wages or benefits following an unscheduled wage reopener on 3/4/85 yielding 4.6 percent; see CWD July 1983.
Cone Mills Corp.; White Oak Plant Clothing and Textile Workers—2,100	See next column 6/2/85	1-year agreement negotiated 6/2/85 provided: no wage change; however, previous contract yielded 4.5 percent under unscheduled wage reopener on 12/17/84; no recent listing.

Continued—Selected wage and benefit changes

Employer, union, and number of workers covered	Current general wage increase and effective date	Related information
PAPER AND ALLIED PRODUCTS		
Scott Paper Co., S.D. Warren Div. Westbrook, ME Paperworkers—1,050	5 percent 6/1/85	2-year agreement negotiated 6/1/85 also provided: 4.5 percent wage increase on 6/1/86; $20 month pension for each year of credited services (was $18); $190 week sickness and accident benefit (was $180) increasing to $200 in 2d year; $500,000 major medical benefits (was $250,000); $17,000 life insurance (was $15,000) increasing to $18,000 in 2nd year; see CWD July 1984.
Boise Cascade Paper Group Rumford, ME Paperworkers—1,300	5 percent 7/1/85	Deferred increase negotiated 6/27/83 (CWD Aug. 1983); see CWD July 1984.
Bowaters Southern Paper Corp. Tennessee Paperworkers and Electrical Workers (IBEW)—1,167	5 percent 7/3/84	Deferred increase negotiated 5/25/84 (CWD Oct. 1984).
Manville Forest Products West Monroe, LA Paperworkers—900	5 percent 7/1/85	Deferred increase negotiated 7/9/83 (CWD Oct. 1983); see CWD July 1984.
Continental Can Co., Inc. Hodge, LA Paperworkers—900	5 percent 7/1/85	Deferred increase negotiated 9/15/83 (CWD Nov. 1983); see CWD July 1984.
James River Co., KVP Div. Parchment, MI Paperworkers—1,000	5 percent plus $100 bonus 7/24/85	Deferred increase negotiated 7/23/84 CWD Sept. 1984).
James River Corp., Board and Carton Div. Kalamazoo, MI Paperworkers—1,200	5 percent 7/24/85	Deferred increase negotiated 7/24/84 (CWD Sept. 1984).
Nekoosa-Edwards Paper Co. Nekoosa and Port Edwards, WI Paperworkers—1,500	4 percent plus $300 lump sum	3-year agreement negotiated 5/31/85 also provided: 4 percent on 6/1/86 and 3.75 percent on 6/1/87; 17 cents (was 15 cents) 2nd shift differential increasing to 19 cents on 6/1/87; 33 cents (was 30 cents) 3rd shift differential increasing to 36 cents on 6/1/87; $20 month (was $19) pension for each year of credited sevice, increasing to $21 in 2nd and $22 in 3rd years; $13,000 life insurance (was $12,000) increasing to $14,000 and $15,000 in 2nd and 3rd years, respectively; employees pay 20 percent (was fully company paid) toward health insurance; see CWD July 1984.
James River Corp. Green Bay, WI Paperworkers—900	$500 lump sum 5/1/85	3-year agreement negotiated 5/23/85 also provided: $500 lump sums on 11/1/85, and 11/1/86, and 4 percent wage increase on 5/1/87; $20 (was $18) month pension benefit for each year of service 5/87, and effective 5/85 for current retirees; $170 (was $165) accident and sickness benefits increasing to $175 in 5/86 and to $180 in 5/87; see CWD Aug. 1983 for previous listing.
PRINTING AND PUBLISHING		
Metropolitan Lithographers Inc. New York, NY Amalgamated Lithographers of America (Ind.)—5,000	4.3 percent 7/1/85	Deferred increase negotiated 6/26/84 (CWD Sept. 1984)
Union Employers Assn. Chicago, IL Graphic Communications—1,000	17 percent 6/1/85	Automatic semiannual cost-of-living adjustment; see CWD Jan. 1985.

SOURCE: Bureau of Labor Statistics, *Current Wage Developments,* July 1985.

Figure 9.2

PRELIMINARY

Table 1. Average (mean) wage and compensation (wage and benefit costs) adjustments in collective bargaining settlements, 1984.

(in percent)

Measure	First-year adjustment[1]	Annual adjustment over life of contract[2]	Number of workers (000's)
Wage adjustments in settlements covering 1,000 workers or more:			
All industries	2.4	2.3	2,261
Contracts with COLA clauses	2.9	1.8	849
Contracts without COLA clauses	2.1	2.9	1,412
Manufacturing	2.3	1.4	831
Contracts with COLA clauses	2.1	1.0	656
Contracts without COLA clauses	3.0	3.2	175
Nonmanufacturing	2.5	2.9	1,431
Contracts with COLA clauses	5.5	4.8	193
Contracts without COLA clauses	2.0	2.6	1,238
Construction	.5	1.0	480
Contracts with COLA clauses	4.0	1.4	9
Contracts without COLA clauses	.5	1.0	471
All industries excluding construction	2.9	2.7	1,781
Contracts with COLA clauses	2.9	1.8	840
Contracts without COLA clauses	2.9	3.5	941
Nonmanufacturing excluding construction	3.4	3.8	950
Contracts with COLA clauses	5.6	5.0	184
Contracts without COLA clauses	2.9	3.5	766
Compensation adjustments in settlements covering 5,000 workers or more:			
All industries	3.6	2.8	1,371
Contracts with COLA clauses	4.0	2.3	679
Contracts without COLA clauses	3.3	3.3	692
Manufacturing	3.6	1.8	572
Contracts with COLA clauses	3.7	1.7	535
Contracts without COLA clauses	2.5	3.3	37
Nonmanufacturing	3.7	3.5	799
Contracts with COLA clauses	5.3	4.4	144
Contracts without COLA clauses	3.3	3.3	655
Construction[3]	1.7	1.8	159
All industries excluding construction	3.9	3.0	1,212
Nonmanufacturing excluding construction	4.1	4.0	640

[1] Change effective within first 12 months of contract term.

[2] Total adjustment over contract term expressed as an average annual (compound) rate.

[3] Data by COLA coverage for construction do not meet publication standards.

NOTE: Because of rounding, sums of individual employment items may not equal totals.

SOURCE: BLS news release, *"Major Collective Bargaining Settlements in Private Industry,"* USDL 85-28, January 24, 1985.

Figure 9.3 **PRELIMINARY**

Table 2. First-year wage adjustments in collective bargaining settlements covering 1,000 workers or more, 1984

Rate of adjustment [1]	Percent of workers affected		
	All industries	Manufacturing	Nonmanufacturing
All settlements	100	100	100
No wage change	17	13	20
Decreases [2]	5	1	8
Increases	77	86	72
Under 2 percent	15	6	20
2 and under 4 percent	29	67	8
4 and under 6 percent	19	10	24
6 and under 8 percent	12	2	17
8 percent and over	2	([3])	4
Total number of workers (in thousands)	2,261	831	1,431
Mean adjustment (percent)	2.4	2.3	2.5
Median adjustment (percent)	2.2	2.2	2.7
Mean increase (percent	3.8	2.7	4.5
Median increase (percent)	2.9	2.2	5.0
Mean decrease (percent)	-9.6	-10.9	-9.6
Median decrease (percent)	-10.0	-6.8	-10.0

[1] Percent of estimated average hourly earnings, excluding overtime. Presents changes in wages decided upon during the period and effective within 12 months of the effective date of the agreement.

[2] Distributions are not shown to protect confidentiality.

[3] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual employment items may not equal totals.

SOURCE: BLS news release, ***"Major Collective Bargaining Settlements in Private Industry,"*** USDL 85-28, January 24, 1985.

Figure 9.4

Table 10. Average effective wage adjustments in collective bargaining agreements covering 1,000 workers or more during 4-quarter periods

(in percent)

Effective adjustment	Four quarters ending								
	1982	1983				1984			
	IV	I	II	III	IV	I[1]	II[1]	III[1]	IV[2]
For all workers:									
Total[3]	6.8	6.3	5.5	4.3	4.0	4.7	4.3	4.2	3.7
From current settlements	1.7	1.3	1.2	.9	.8	1.2	1.0	.9	.7
From prior agreements	3.6	3.5	3.1	2.6	2.5	2.5	2.2	2.1	2.0
From COLA	1.4	1.5	1.3	.8	.6	1.0	1.1	1.2	.9
For workers receiving adjustments:									
Total	7.2	6.6	6.4	5.6	4.7	5.5	5.3	5.0	4.4
From current settlements	7.4	4.8	4.0	3.2	2.8	4.2	3.6	3.7	3.0
From prior agreements	6.3	6.1	5.5	5.9	5.9	5.5	4.9	4.2	4.0
From COLA	3.1	3.1	3.0	2.4	2.1	3.6	4.0	3.3	2.7

[1] Preliminary revised.

[2] Preliminary.

[3] Because of rounding, may not equal sum of parts.

SOURCE: BLS news release, ***"Major Collective Bargaining Settlements in Private Industry,"*** USDL 85-28, January 24, 1985.

Chapter 10. The Employee Benefits Survey

The growth in importance of supplementary benefits over recent decades has increased the need for data on their structure and coverage. In earlier years, paid holidays and vacations, employer-provided health and life insurance, pensions, and similar benefits were referred to as "fringe" benefits—minor appendages to the wage structure. They now commonly account for a fourth or more of employer outlays on worker remuneration.

Several of the Bureau's compensation surveys include employee benefits. For example, area and industry wage surveys report on the incidence of major benefits, and the Employment Cost Index measures changes in total compensation, including employers' expenditures for benefits. Only one Bureau program, the Employee Benefits Survey (EBS), concentrates wholly on benefits. This program provides a comprehensive body of data on the percent of employees covered by major employee benefits and also on the detailed provisions of the benefit plans.

Background

Although the Bureau has studied the provisions of employee benefit plans since the 1920's, the EBS is its first comprehensive annual survey program in this area. During the 1960's and 1970's, occasional studies of a particular type of benefit, such as health insurance or pension plans, were based on a sample of plans. In addition, every 3 or 4 years between 1956 and 1978, BLS published summaries of the major provisions of a limited number of health, insurance, and pension plans in *Digest of Selected Health and Insurance Plans* and *Digest of Selected Pension Plans*.

The EBS was developed in the late 1970's at the request of the U.S. Civil Service Commission (now the Office of Personnel Management). The Federal Salary Reform Act of 1962 and its successor, the Federal Pay Comparability Act of 1970, provide for adjustments in salaries of Federal white-collar employees to achieve comparability with pay rates in private enterprises for the same levels of work. The Bureau's National Survey of Professional, Administrative, Technical, and Clerical Pay (PATC) provides data on private industry salaries used in administering this legislation (see chapter 2).

But the rapid growth of employee benefits has raised questions about the validity of a comparability process limited to wages and salaries alone. In the 1970's the General Accounting Office and two Presidential review groups recommended that the comparability system be expanded to include benefits. In response to these recommendations, the Office of Personnel Management (OPM) initiated its Total Compensation Comparability (TCC) project. Computer models were developed which determined the annual cost per employee to the Federal Government—given the characteristics of its work force—if it adopted the various benefit plans in private industry. These costs could then be compared with actual Federal benefit costs.

Because of the Bureau's long experience in studying employee benefits, OPM asked the Bureau to collect the needed data on plan incidence and characteristics in private industry. The Bureau conducted a series of tests to determine the feasibility of collecting and analyzing the provisions of non-Federal benefits in sufficient detail to meet the requirements of OPM's cost estimating models.

In 1979, the first full-scale test was conducted. The survey, originally called the Level of Benefits Survey and now called the Employee Benefits Survey, has been conducted annually since the 1979 test. Although OPM no longer uses the cost estimating models developed for the TCC project, EBS data are used by OPM, other government agencies, Congress, and the private sector as a key source of information on the provisions of benefit plans.

Survey scope and concepts

The survey collects information on employee benefits of full-time workers in medium and large firms in most private industries. Information is developed on employee work schedules and the percent of employees covered by, and detailed provisions of, 11 private sector employee benefits paid for at least in part by the employer: Paid lunch and rest periods, holidays, vacations, and personal and sick leave; sickness and accident, long-term disability, health, and life insurance; and private retirement pension plans. Beginning with the 1985 survey, detailed data also are collected on stock, savings and thrift, and profit sharing plans, and paid funeral, military, and jury-duty leave.

Data were collected each year between 1980 and 1985 on the percent of employees eligible for (but not the details of) several "secondary" benefits, including severance pay, employee discounts, noncash bonuses, cash bonuses not directly related to employee output (nonproduction bonuses), relocation allowances, recreation facilities, subsidized meals, educational assistance, automobile parking, personal use of a company-owned car, and an in-house infirmary. The following items were added in 1985: Child care, employer-sponsored reimbursement accounts, subsidized commuting, supplemental unemployment benefits, travel accident insurance, financial counseling, and prepaid legal services.

Reflecting its origin (the pay comparability process for Federal white-collar employees), the EBS has the same scope as the Bureau's PATC survey. It covers private sector establishments[1] in the United States, excluding Alaska and Hawaii, employing at least 50, 100, or 250 workers, depending on the industry. Industrial coverage includes: Mining; construction; manufacturing; transportation, communications, electric, gas, and sanitary services; wholesale trade; retail trade; finance, insurance, and real estate; and selected services. About 21 million workers in 45,000 establishments fall within the survey's scope. Data are collected separately for three occupational groups—professional-administrative, technical-clerical, and production workers.[2]

Respondents provide information on the number of workers covered by specified benefit plans. Under wholly employer-financed plans that require a minimum amount of service prior to receiving benefits, workers are counted as covered even if they have not met the minimum service requirement at the time of the survey. Under plans such as health or life insurance that require an employee to pay part of the cost (contributory plans), workers are counted only if they have elected the plan and are paying their share of the cost. Data on insured benefit plans and private retirement pension plans are thus limited to "participants." Plans for which only administrative costs are paid by the employer are not included in the survey.

Data collection for the EBS begins in January and continues through July. Respondents are asked for information as of the time of the data collection visit. The data reflect an average reference period of March.

Survey methods

Data sources and collection methods. Data are collected primarily by visits of Bureau field representatives to a sample of establishments within the scope of the survey. To reduce the reporting burden, respondents are asked to provide documents describing their retirement plans, capital accumulation plans, and plans covering the four insured benefit areas surveyed (sickness and accident, long-term disability, health, and life insurance). These documents are analyzed by BLS staff in Washington to obtain the required data on plan provisions. Whenever possible, the field representative also obtains the identification number for each plan filed with the Department of Labor under the reporting requirements of the Employee Retirement Income Security Act (ERISA). If plan documents are not available at the establishment or are incomplete, the Bureau attempts to obtain the necessary information from the ERISA filings. (Because of the time allowed officials for submitting updated plan summaries, however, ERISA material is usually not as current as descriptions received from the establishment.) Plans which are paid for in full by the employee are not reported. Data on paid leave, other paid time off, and secondary benefits generally are obtained directly from the employer at the time of the visit.

Information obtained from respondents and plan documents is entered on computer files. The data resulting from the analysis and coding of plan documents are not directly linked to a particular establishment. Instead, three interactive databases are created—one for establishment control data, another for paid leave plan provisions, and a third for retirement and insurance plan provisions. The control database contains information on the establishments surveyed, including: Number of employees, number of plan participants, industry, geographic location, and sampling weight.

The plan databases contain the provisions of each plan for which information was obtained. Plan identification codes are such that a plan, once analyzed, need not be analyzed again regardless of how many establishments report it (e.g., a companywide health insurance program or a multiemployer pension plan).

Sampling and estimation procedures. The list of establishments from which the sample is selected (called the sampling frame) is the same as that used for the PATC survey. This sampling frame is developed by refining data from the most recently available State Unemployment Insurance (UI) reports for 48 States covered by the survey and the District of Columbia. The refinement procedures include an effort to ensure that sampling frame units correspond to the definition of an establishment adopted for this survey.

To reduce the costs and resources required for data collection, the EBS sample is a subsample of the PATC sample. It contains about 1,500 establishments and is selected by first stratifying the sampling frame by broad industry group and establishment size group based on the total employment in the establishment.

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[1] For this survey, an establishment is an economic unit(s) which produces goods or services, a central administrative office, or an auxiliary unit providing support services to a company. In manufacturing industries, the establishment is usually a single physical location. In nonmanufacturing industries, all locations of an individual company within a Metropolitan Statistical Area (MSA), a Primary Metropolitan Statistical Area (PMSA), or a nonmetropolitan county are usually considered a single establishment.

[2] As noted in chapter 2, beginning in 1986, coverage of the PATC survey will be expanded to include smaller establishments, additional private industries, and the government sector. Related expansions are planned for the EBS, although at a slower pace.

The sample size allocated to each stratum (defined by industry and size) is approximately proportional to the total employment of all sampling frame establishments in the stratum. Thus, a stratum which contains 1 percent of the total employment within the scope of the survey includes approximately 1 percent of the total sample. The result of this allocation procedure is that each stratum has a sampling fraction (the ratio of the number of units in the sample to the number in the sampling frame) which is proportionate to the average employment of the units in the stratum.

Two procedures are used to adjust for missing data from partial reports and total refusals. First, imputations are made for the number of plan participants when the number is not reported. Each of these participant values is imputed by randomly selecting a similar plan from another establishment in a similar industry and size class. The participation rate from this plan is used to approximate the number of participants for the plan which is missing a participation value but is otherwise usable. For other forms of missing data (or nonresponse), an adjustment is made using a weight adjustment technique based on sample unit employment.

Standard errors have been calculated for about one-third of the estimates produced in a recent survey year as part of a project to develop a generalized variance formula. Results indicate that standard errors on estimates of the percent of employees covered by a specific benefit or detailed plan provision usually are less than 2 percentage points, and seldom are over 4 percentage points. Further, standard errors for the change in estimates between 1982 and 1983 were computed for 216 estimating cells. Results indicate that changes of 3 percentage points or more are significant at a high level of confidence for about nine-tenths of the estimates; cells with bases of fewer than 1 million employees are likely to have larger standard errors.

Sampling and estimating procedures are designed to provide national data for all studied industries combined. Survey findings do not yield reliable estimates for individual industries, geographic regions, or establishment size classes.

Presentation of data

Summary survey results are published in a news release in the spring following the survey year, and a bulletin with over 60 tables is published in late summer.[3] These tables present estimates of the percent of workers in medium and large firms covered by individual benefit plans and the most important plan provisions. Estimates are published for all employees combined and separately for professional-administrative, technical-clerical, and production workers.

The benefit plan databases contain additional detailed information for which estimates and tabulations are not routinely developed by BLS. These data are used for in-depth analyses of specific aspects of employee benefits that are occasionally published in *Monthly Labor Review* articles (see references).

Employee benefit data collected during the annual survey, including detailed provisions of plans and the number of participants, are available on magnetic tapes.[4] In accordance with a pledge of confidentiality to survey respondents, all information that could identify a specific reporting establishment is removed. The tapes may be used to derive national estimates, similar to those presented in the bulletin, for those provisions in the database that are not regularly tabulated by BLS.

Percentages of covered workers in the tables published in the annual bulletin are calculated in three ways. One calculation shows the covered workers as a percent of all workers within the scope of the survey—the incidence of the benefit (see figure 10-1).

A second approach, illustrated by figures 10-2 and 10-3, shows the workers covered by specific features of a benefit as a percent of all employees who participate in that general benefit area. These tables answer questions concerning typical coverages provided to persons with a given insurance benefit or a private pension plan; for example, what percent of all employees with health insurance receive dental coverage?

The third approach (figures 10-4 and 10-5) provides a closeup look at an important feature of the plan; for example, what percent of all employees with dental coverage in their health insurance are covered for orthodontic work?

Uses and limitations

The extensive body of information on employee benefits generated in this survey provides a unique data resource. It is a major source of information for labor and management representatives involved in contract negotiations. Employers frequently seek information permitting comparison of their benefit plans with prevailing practices. Labor unions also use benefits data to assess potential areas for increasing nonwage compensation. Other users of the data are State and Federal conciliators and mediators, public and private arbitrators, Members of Congress and congressional staff considering legislation affecting the welfare of workers, and government officials responsible for recommending legislation and reviewing proposed legislation. For example, Congress and the Administration need data to evaluate the revenue implications of the favorable tax treatment accorded many types of benefits. Also, social welfare planners use data on private benefit plans to assess the ability of employees to provide for the current and future health and welfare needs of themselves and their dependents.

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[3] The most recent bulletin is *Employee Benefits in Medium and Large Firms, 1984*, Bulletin 2237, June 1985. The annual bulletins contain a technical appendix describing survey methodology in greater detail than is possible in this chapter.

[4] The tapes may be purchased from the Office of Wages and Industrial Relations, Bureau of Labor Statistics, Washington, D.C. 20212. They are available in 1600 and 6250 BPI, labeled and unlabeled, with a blocking factor of 12,800. Lists of data items on the computer files are available upon request.

In addition, BLS tabulations and analyses of employee benefits can also be of use to teachers, students, and others in the academic field; private consultants; researchers; writers; and those not directly involved in legislation or collective bargaining but concerned with the development, status, and trends in employee benefits.

Since data collection is limited to provisions of formal plans, the extent of such benefits as rest periods and personal leave may be understated. Furthermore, the data show the coverage of benefit plans but not the actual use of these benefits; for example, that part of paid sick leave actually taken.

Users of the EBS data should keep in mind that the survey does not measure employer costs for benefits.[5] Also, the current scope of the survey excludes small firms—those with up to 50, 100, or 250 employees, depending on the industry. Studies of employee benefits that include all firms typically report lower participation rates for most benefits. Also, reliable estimates can be produced only at the national level, with no geographic or industry detail. Data for selected industries are available from industry wage surveys, and for selected geographic regions, from area wage surveys. These occupational wage surveys, which include some small firms, provide data on paid holiday and vacation practices and the incidence of welfare and pension plans, but not detailed provisions of the benefits (see chapter 2).

Since data gathered in Bureau surveys are confidential, specific plan provisions cannot be published.[6] However, details of benefits provided under large negotiated agreements are published in *Current Wage Developments* (see chapter 9) and are available in the Bureau's public-use file of negotiated contracts. Besides small firms, the survey also excludes executive management and traveling operating employees (such as airline pilots), as well as part-time, temporary, and seasonal employees. Alaska and Hawaii are not surveyed; neither are the public sector and some industries such as agriculture, education, and health services. The data, therefore, do not statistically represent all employees in the United States, or even all employees in private industry. Nevertheless, the survey provides the most extensive information available on the provisions of employee benefits.

The EBS is designed to yield estimates of the percent of employees with specific benefit provisions in the survey year, not the change in plan provisions over time. Some plan provisions are found mainly in one or two industries. When employment changes do not occur evenly across industries, shifts in survey findings regarding relative incidence of types of benefit plans may stem, not from changes in plans, but from disproportionate changes in the number of employees covered by different types of plans.

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[5] Surveys of employer expenditures for employee compensation were discontinued in 1977. These surveys measured outlays for individual elements of compensation, including pay for leave and contributions to private and public welfare and retirement plans. See *Employee Compensation in the Private Nonfarm Economy, 1977*, Summary 80-5 (Bureau of Labor Statistics, 1980).

[6] The *Digest of Selected Health and Insurance Plans* and the *Digest of Selected Pension Plans*, mentioned earlier, identified the plans analyzed. The information, however, was obtained with the plan sponsor's consent for the specific purpose of the publications.

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Articles

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Figure 10.1

Table 1. Summary: Percent of full-time employees by participation[1] in employee benefit programs, medium and large firms,[2] 1984

Employee benefit program	All employees	Professional and administrative employees	Technical and clerical employees	Production employees
Paid:				
Holidays	99	99	100	98
Vacations	99	99	100	99
Personal leave	23	29	34	15
Lunch period	9	3	4	16
Rest time	73	59	73	80
Sick leave	67	92	92	42
Sickness and accident insurance	51	29	37	70
Wholly employer financed	42	20	27	61
Partly employer financed	10	9	10	10
Long-term disability insurance	47	67	58	30
Wholly employer financed	35	47	42	26
Partly employer financed	11	20	16	5
Health insurance[3]	97	98	95	97
Employee coverage:				
Wholly employer financed	62	57	48	71
Partly employer financed	35	41	47	26
Family coverage:				
Wholly employer financed	41	39	32	46
Partly employer financed	56	59	64	50
Life insurance	96	97	95	96
Wholly employer financed[4]	81	80	78	83
Partly employer financed	15	17	17	12
Retirement pension	82	83	84	80
Wholly employer financed[4]	74	74	78	72
Partly employer financed	8	9	6	8

[1] Participants are workers covered by a paid time off, insurance, or pension plan. Employees subject to a minimum service requirement before they are eligible for a benefit are counted as participants even if they have not met the requirement at the time of the survey. If employees are required to pay part of the cost of a benefit, only those who elect the coverage and pay their share are counted as participants. Benefits for which the employee must pay the full premium are outside the scope of the survey. Only current employees are counted as participants; retirees are excluded even if participating in a benefit program.

[2] See appendix A for scope of study and definitions of occupational groups.

[3] Includes less than 0.5 percent of employees in plans that did not offer family coverage.

[4] Includes participants in noncontributory basic plans who may contribute to the cost of supplemental plans in these benefit areas. Supplemental plans are not tabulated in this bulletin.

NOTE: Because of rounding, sums of individual items may not equal totals.

SOURCE: *Employee Benefits in Medium and Large Firms, 1984*, BLS Bulletin 2237, June 1985.

Figure 10.2

Table 20. Health insurance: Percent of full-time participants by coverage for selected categories of medical care, medium and large firms, 1984

Category of medical care	Total	Care provided				Care not provided
		All	By basic benefits only[1]	By major medical only[2]	By basic benefits and major medical	
All participants						
Hospital room and board	100	100	17	28	54	(3)
Hospitalization—miscellaneous services	100	100	16	29	54	(3)
Outpatient care[4]	100	100	12	27	60	(3)
Extended care facility[5]	100	62	24	28	11	38
Home health care[5]	100	46	22	16	9	54
Surgical	100	100	32	29	39	(3)
Physician visits—in hospital	100	100	12	49	38	(3)
Physician visits—office	100	96	6	83	7	4
Diagnostic X-ray and laboratory[6]	100	100	25	42	33	(3)
Prescription drugs—nonhospital	100	98	14	81	3	2
Private-duty nursing	100	96	6	89	1	4
Mental health care	100	99	10	28	61	1
Dental	100	77	72	5	-	23
Vision	100	30	26	4	(3)	70
Professional and administrative						
Hospital room and board	100	100	16	32	52	(3)
Hospitalization—miscellaneous services	100	100	15	33	51	(3)
Outpatient care[4]	100	100	9	30	61	(3)
Extended care facility[5]	100	66	22	31	13	34
Home health care[5]	100	48	20	18	10	52
Surgical	100	100	31	33	36	(3)
Physician visits—in hospital	100	100	11	58	32	(3)
Physician visits—office	100	99	7	88	4	1
Diagnostic X-ray and laboratory[6]	100	100	23	49	28	(3)
Prescription drugs—nonhospital	100	98	12	82	4	2
Private-duty nursing	100	99	7	91	1	1
Mental health care	100	100	8	31	60	(3)
Dental	100	79	74	5	-	21
Vision	100	26	21	5	(3)	74
Technical and clerical						
Hospital room and board	100	100	16	32	51	(3)
Hospitalization—miscellaneous services	100	100	14	33	52	(3)
Outpatient care[4]	100	100	10	31	59	(3)
Extended care facility[5]	100	63	18	31	13	37
Home health care[5]	100	47	18	18	11	53
Surgical	100	100	32	33	35	(3)
Physician visits—in hospital	100	100	11	56	32	(3)
Physician visits—office	100	99	7	87	5	1
Diagnostic X-ray and laboratory[6]	100	100	23	48	29	(3)
Prescription drugs—nonhospital	100	97	11	84	3	3
Private-duty nursing	100	99	7	89	2	1
Mental health care	100	99	8	32	60	1
Dental	100	75	70	5	-	25
Vision	100	26	21	5	(3)	74

See footnotes at end of table.

Table 20. Health insurance: Percent of full-time participants by coverage for selected categories of medical care, medium and large firms, 1984—Continued

Category of medical care	Total	Care provided				Care not provided
		All	By basic benefits only[1]	By major medical only[2]	By basic benefits and major medical	
Production						
Hospital room and board	100	100	18	25	57	(3)
Hospitalization—miscellaneous services	100	100	18	25	57	(3)
Outpatient care[4]	100	100	16	24	60	(3)
Extended care facility[5]	100	60	27	24	9	40
Home health care[5]	100	44	24	13	7	56
Surgical	100	100	32	25	43	(3)
Physician visits—in hospital	100	100	14	42	44	(3)
Physician visits—office	100	94	5	79	9	6
Diagnostic X-ray and laboratory[6]	100	100	27	36	37	(3)
Prescription drugs—nonhospital	100	98	17	79	2	2
Private-duty nursing	100	93	5	87	1	7
Mental health care	100	99	13	25	62	1
Dental	100	76	71	5	–	24
Vision	100	33	30	3	(3)	67

[1] A provision was classified as a basic benefit when it related to the initial expenses incurred for a specific medical service. Under these provisions, a plan paid covered expenses in one of several ways: (1) In full with no limitation; (2) in full for a specified period of time, or until a dollar limit was reached; or (3) a cash scheduled allowance benefit that provided up to a dollar amount for a service performed by a hospital or physician. For a specific category of care, a plan may require the participant to pay a specific amount each disability or year (deductible) or a nominal charge each visit or procedure (copayment) before reimbursement begins or services are rendered.

[2] Major medical benefits cover many categories of expenses, some of which are not covered under basic benefits, and others for which basic coverage limits have been exhausted. These benefits are characterized by deductible and coinsurance provisions that are applied across categories of care.

[3] Less than 0.5 percent.

[4] Coverage for any of the following services charged by the outpatient department of the hospital: Treatment for accidental injury or emergency sickness; surgical procedures; rehabilitative or physical therapy; and treatment for chronic illness (radiation therapy, etc.).

[5] Some plans provide this care only to a patient who was previously hospitalized and is recovering without need of the extensive care provided by a general hospital.

[6] Charges incurred in the outpatient department of a hospital and outside of the hospital.

NOTE: Because of rounding, sums of individual items may not equal totals. Dash indicates no employees in this category.

SOURCE: ***Employee Benefits in Medium and Large Firms, 1984***, BLS Bulletin 2237, June 1985.

Figure 10.3

Table 47. Private pension plans:[1] Percent of full-time participants by minimum age and associated service requirements for normal retirement,[2] medium and large firms, 1984

Age and service requirements[3]	All participants	Professional and administrative participants	Technical and clerical participants	Production participants
Total	100	100	100	100
No age requirement	17	9	9	25
Less than 30 years' service	1	1	1	(4)
30 years' service	16	7	8	24
More than 30 years' service	(4)	1	(4)	1
Less than age 55	(4)	-	-	(4)
30 years' service	(4)	-	-	(4)
Age 55	5	8	4	4
5 or 10 years' service	1	2	1	(4)
20 years' service	2	5	2	(4)
30 years' service	2	1	1	3
More than 30 years' service	(4)	(4)	(4)	(4)
Age 56-59	1	1	1	2
15 or 20 years' service	1	-	(4)	1
More than 30 years' service	1	1	(4)	1
Age 60	13	18	15	9
No service requirement	3	4	3	3
1-4 years' service	(4)	(4)	(4)	(4)
5 years' service	2	3	2	(4)
10 years' service	2	3	3	2
11-14 years' service	(4)	(4)	(4)	(4)
15 years' service	1	2	1	(4)
20 years' service	1	(4)	(4)	1
25 years' service	(4)	(4)	(4)	(4)
30 years' service	3	5	4	3
More than 30 years' service	1	1	1	(4)
Age 61	(4)	(4)	(4)	(4)
No service requirement	(4)	(4)	(4)	(4)
20 years' service	(4)	(4)	(4)	(4)
Age 62	17	18	18	16
No service requirement	4	5	6	4
1-4 years' service	(4)	(4)	(4)	(4)
5 years' service	1	1	1	(4)
6-9 years' service	(4)	(4)	-	-
10 years' service	7	7	5	8
11-14 years' service	(4)	(4)	(4)	(4)
15 years' service	1	1	1	1
20 years' service	1	(4)	1	1
25 years' service	1	1	1	1
30 years' service	1	2	2	1
More than 30 years' service	(4)	(4)	(4)	1
Age 63-64	1	1	3	1
No service requirement	(4)	(4)	(4)	(4)
10 years' service	1	1	3	(4)
Age 65	37	32	39	38
No service requirement	33	30	36	33
1-4 years' service	(4)	-	-	(4)
5 years' service	1	1	1	1
10 years' service	3	2	2	4
Sum of age plus service	9	14	11	6
Equals less than 80	2	2	2	1
Equals 80	1	1	1	(4)
Equals 85	4	7	4	3
Equals 86-89	(4)	(4)	1	-
Equals 90 or more	2	3	4	1

[1] Excludes supplemental pension plans.

[2] Normal retirement is defined as the point at which the participant could retire and immediately receive all accrued benefits by virtue of service and earnings, without reduction due to age.

[3] If a plan had alternative age and service requirements, the earliest age and associated service were tabulated; if one alternative did not specify an age, it was the requirement tabulated.

[4] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dash indicates no employees in this category.

SOURCE: *Employee Benefits in Medium and Large Firms, 1984*, BLS Bulletin 2237, June 1985.

best copy available

Figure 10.4

Table 26. Health insurance: Percent of full-time participants in plans with dental benefits by extent of coverage for selected procedures, medium and large firms, 1984

Type of dental procedure	Total	Scheduled cash allowance	Incentive schedule[1]	Subject to copayment[2]	Percent of usual, customary, and reasonable charge										Not covered
					Total	50	60	61-74	75	80	85	90	91-99	100	
All participants															
Examinations	100	16	2	(3)	82	(3)	(3)	1	2	24	1	1	-	53	(3)
Dental X-rays	100	16	2	(3)	82	(3)	(3)	1	2	27	4	6	-	41	(3)
Fillings	100	27	2	(3)	71	4	1	2	5	42	5	6	-	5	(3)
Dental surgery	100	26	2	(3)	71	5	1	2	5	41	4	6	-	5	1
Periodontal care	100	27	2	(3)	70	7	1	1	5	40	5	6	-	4	1
Inlays	100	27	1	(3)	70	39	5	2	1	13	3	6	-	2	2
Crowns	100	27	1	1	70	39	5	2	1	12	3	6	-	2	1
Orthodontia	100	12	-	1	59	51	3	1	(3)	2	1	(3)	(3)	1	28
Professional and administrative															
Examinations	100	19	2	(3)	79	1	(3)	1	3	22	(3)	1	-	51	(3)
Dental X-rays	100	20	2	(3)	79	1	(3)	2	3	26	1	3	-	43	(3)
Fillings	100	30	2	(3)	68	3	1	2	5	45	3	3	-	5	(3)
Dental surgery	100	29	1	(3)	68	4	1	2	5	45	3	3	-	5	1
Periodontal care	100	30	1	(3)	68	7	1	2	4	43	3	3	-	4	1
Inlays	100	30	(3)	(3)	68	41	6	2	2	12	1	3	-	2	1
Crowns	100	30	(3)	1	68	41	6	2	2	11	1	3	-	2	1
Orthodontia	100	16	-	1	58	49	4	1	(3)	2	1	-	(3)	1	25
Technical and clerical															
Examinations	100	14	2	(3)	83	1	(3)	1	1	29	(3)	1	-	49	(3)
Dental X-rays	100	15	2	(3)	83	1	(3)	2	1	32	1	3	-	42	(3)
Fillings	100	27	2	(3)	71	4	1	2	5	49	3	3	-	4	(3)
Dental surgery	100	26	2	1	71	4	1	3	4	49	3	3	-	4	1
Periodontal care	100	27	2	1	69	7	1	2	4	45	3	3	-	5	1
Inlays	100	27	(3)	(3)	71	43	6	3	1	13	1	3	-	1	2
Crowns	100	27	1	1	70	43	6	3	1	12	1	3	-	1	1
Orthodontia	100	14	-	1	56	48	3	1	(3)	2	1	-	(3)	(3)	29
Production															
Examinations	100	15	2	(3)	83	(3)	(3)	(3)	2	23	1	1	-	56	(3)
Dental X-rays	100	15	2	(3)	83	(3)	(3)	1	2	25	6	10	-	40	(3)
Fillings	100	26	2	(3)	72	6	1	1	6	36	7	10	-	6	(3)
Dental surgery	100	25	2	(3)	72	6	1	1	6	36	6	10	-	7	1
Periodontal care	100	25	2	(3)	72	7	1	1	6	36	7	10	-	4	1
Inlays	100	26	1	(3)	71	36	4	1	1	13	5	9	-	2	2
Crowns	100	26	1	(3)	71	36	4	1	1	13	5	9	-	2	2
Orthodontia	100	10	-	1	62	53	3	2	(3)	1	1	(3)	(3)	1	28

[1] Reimbursement arrangement in which the percentage of dental expenses paid by the plan increases if regular dental appointments are scheduled.

[2] Participant pays a specific amount per procedure and plan pays all remaining expenses.

[3] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dash indicates no employees in this category.

SOURCE: ***Employee Benefits in Medium and Large Firms, 1984,*** BLS Bulletin 2237, June 1985.

Figure 10.5

Table 36. Life insurance: Percent of full-time participants in plans with multiple-of-earnings formulas by amount of basic insurance and maximum coverage provisions, medium and large firms, 1984

Formula	Total	In plans without maximum coverage	In plans with maximum coverage				
			All	Less than $50,000	$50,000-$99,999	$100,000-$249,999	$250,000 or more
All participants							
Total	100	50	50	3	8	20	20
Life insurance is equal to annual earnings times:[1]							
Less than 1.0	3	1	2	(2)	(2)	1	-
1.0	41	24	17	2	3	9	3
1.1-1.4	1	1	(2)	(2)	-	-	-
1.5	10	3	7	(2)	1	4	2
1.6-1.9	(2)	-	(2)	(2)	-	-	-
2.0	37	18	20	(2)	2	5	12
2.5	3	1	2	-	1	(2)	1
2.6-2.9	(2)	-	(2)	-	(2)	-	-
3.0	2	1	2	-	(2)	(2)	1
More than 3.0	1	1	(2)	-	-	(2)	(2)
Multiple varying with earnings	1	1	1	-	(2)	1	(2)
Professional and administrative							
Total	100	50	50	3	8	18	22
Life insurance is equal to annual earnings times:[1]							
Less than 1.0	2	1	1	(2)	(2)	(2)	-
1.0	38	21	17	2	3	8	4
1.1-1.4	1	1	-	-	-	-	-
1.5	10	3	6	(2)	1	3	2
1.6-1.9	(2)	-	(2)	(2)	-	-	-
2.0	41	19	22	(2)	2	6	14
2.5	3	2	1	-	(2)	(2)	1
2.6-2.9	(2)	-	(2)	-	(2)	-	-
3.0	2	1	2	-	(2)	(2)	1
More than 3.0	1	1	(2)	-	-	(2)	(2)
Multiple varying with earnings	2	1	1	-	(2)	(2)	(2)
Technical and clerical							
Total	100	50	50	2	8	19	21
Life insurance is equal to annual earnings times:[1]							
Less than 1.0	2	1	(2)	(2)	(2)	(2)	-
1.0	42	25	17	1	3	9	4
1.1-1.4	1	1	(2)	(2)	-	-	-
1.5	9	2	7	(2)	1	4	2
1.6-1.9	(2)	-	(2)	(2)	-	-	-
2.0	37	16	21	(2)	3	5	14
2.5	3	2	1	-	1	(2)	1
2.6-2.9	(2)	-	(2)	-	(2)	-	-
3.0	3	1	2	-	(2)	(2)	1
More than 3.0	1	1	(2)	-	-	-	(2)
Multiple varying with earnings	1	(2)	1	-	(2)	1	(2)
Production							
Total	100	51	49	3	8	23	15
Life insurance is equal to annual earnings times:[1]							
Less than 1.0	5	1	4	1	(2)	4	-
1.0	44	27	18	2	3	10	2
1.1-1.4	1	1	-	-	-	-	-
1.5	11	2	8	1	2	3	2
2.0	33	19	14	(2)	1	4	8
2.5	3	1	2	-	1	-	1
2.6-2.9	1	-	1	-	1	-	-
3.0	1	(2)	1	-	-	(2)	1
More than 3.0	(2)	(2)	(2)	-	-	-	(2)
Multiple varying with earnings	1	-	1	-	-	1	-

[1] When the multiple-of-earnings formula varied with age, the maximum multiple was tabulated. A few plans varied the multiple-of-earnings formula according to service; in these cases, a participant was assumed to have 15 years of service.

[2] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dash indicates no employees in this category.

SOURCE: *Employee Benefits in Medium and Large Firms, 1984*, BLS Bulletin 2237, June 1985.

Appendix A. Selected Compensation Series Published by Agencies Other Than the Bureau of Labor Statistics

In addition to the Bureau of Labor Statistics, other Federal agencies collect and publish data on employee compensation. This appendix describes the contents of selected publications prepared outside the BLS, arranged by agency.[1] With few exceptions, the publications contain primary data collected by the issuing agency. Appendix table 1 provides an overview of this non-BLS data collection and dissemination.

The number and scope of the publications vary considerably, depending on the primary mission of the issuing agency. For example, as a general-purpose statistical agency, the Bureau of the Census provides a wide variety of broad-based series applying to households, families, and individuals, as well as governmental units and private establishments. In comparison, the Social Security Administration, whose primary concern is the administration of various income maintenance programs, generates data closely related to its operations. Regulatory agencies, such as the Interstate Commerce Commission, produce compensation statistics as byproducts of their statutory responsibilities. In contrast to all of the above, the Bureau of Economic Analysis, as an analytical and research agency, does not collect primary data, but compiles and interprets series—including compensation data—obtained from other sources. Types of data vary as well and, depending on the agency, range from average wage rates of workers to aggregate personal income in the United States.

While output of Federal agencies other than the BLS dominates this appendix, compensation-related data are issued by many State government agencies. Examples of reports provided by two States, New York and California, are given at the end of this appendix. Many trade and professional associations collect data on wages and earnings. Although the information is usually available to members only, some organizations publish reports that may be purchased by anyone. Among these are associations such as The Conference Board, the Chamber of Commerce of the U.S., and the American Compensation Association. These three groups do not include all possibilities; to cite all would require a much more comprehensive review.

DEPARTMENT OF COMMERCE

Two bureaus within the Department of Commerce were chosen for special mention—the Bureau of the Census and the Bureau of Economic Analysis—both of which publish data on components of compensation, although the underlying concepts and data sources differ greatly.

Bureau of the Census

This agency not only takes censuses of persons, families, and households, but also of establishments in various sectors of the economy. In addition, enumerations are made of political units at the State and local levels. And each year, intercensal information is collected from samples of participants in selected censuses.

Population surveys. Income statistics collected in the most recent (1980) decennial population census are reported in Volume 1, *Characteristics of the Population.* This volume is divided into four chapters, each containing a national summary and data for the individual States. Chapter C, "General Social and Economic Characteristics," includes 1979 annual money income (distributions by income class and means) and poverty status of persons, households, and families, cross-tabulated by such characteristics as race, age, and sex. The data are shown for metropolitan statistical areas, counties, and other geographic divisions. Chapter D, "Detailed Population Characteristics," contains greater detail than chapter C on social, demographic, and economic characteristics of the population. Income and earnings statistics for 1979 are shown by such characteristics as age, race, sex, labor force status, and education. Summary measures such as mean annual income, mean annual earnings, and mean weekly earnings are given.

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[1] This appendix is not intended to be comprehensive. For wider coverage, see *American Statistics Index*, a comprehensive guide and index to the statistical publications of the U.S. Government (2 volumes); and *Statistical Reference Index*, a selective guide to American statistical publications from private organizations and State government sources (2 volumes). These two publications are issued annually by the Congressional Information Service, Washington, D.C.

Another bibliographic resource is *Statistics Sources*, a subject guide to data on industrial, business, social, educational, financial, and other topics for the United States and internationally, published irregularly by Gale Research Co., Detroit, Mich.

In addition to the decennial census, the Census Bureau collects and publishes separate series of reports that are released under the general title, *Current Population Reports*. Two of these, Series P-60 and Series P-70, emphasize income and related information.

Series P-60, *Consumer Income*, is a continuing series of periodic and special reports presenting nationwide and regional data on annual money income as related to socioeconomic characteristics of persons, families, and households. Reports contain income summary measures such as means and medians. The data come from answers to questions on income asked each March in the Current Population Survey.[2]

Included in the P-60 series are periodic reports such as "Money Income of Households, Families, and Persons in the United States;" "Money Income and Poverty Status of Families and Persons in the United States;" and "Characteristics of Households and Persons Receiving Selected Noncash Benefits." Tables typically relate income to socioeconomic features such as race, age, education, occupation, and work experience. The noncash benefits covered in the third report include those provided by government, such as food stamps, school lunches, subsidized housing, and Medicaid. Information is provided as well on workers who received benefits under employer- or union-provided pension and group health plans.[3]

Among special reports in the P-60 Series is "Lifetime Earnings Estimates for Men and Women in the U.S.: 1979." This report provides estimates by age and educational attainment under alternative real interest and productivity increase rates. The estimates are based on an average of 1978-80 income data from the March 1979, 1980, and 1981 Current Population Surveys.

Series P-70, *Household Economic Studies*, is a new series of quarterly reports that began with the third quarter of 1983.[4] Included in the reports are tabulations showing the relation between selected personal and employment characteristics of persons and households and average monthly cash income and participation in means-tested income maintenance programs.

The P-70 reports are derived from the Survey of Income and Program Participation (SIPP), a panel study designed to obtain data from each household in the sample at 4-month intervals over a period of 2½ years. Each year a new panel is scheduled to be introduced so that cross-sectional estimates can be made, based on a larger sample size. The overlapping design also enhances the survey's ability to measure change over time. The information collected by SIPP is expected to provide a better understanding of the level and change in the well-being of the population and of how economic situations are related to the demogaphic and social characteristics of individuals.

Establishment surveys. Censuses of establishments in selected economic divisions of the economy are conducted by the Census Bureau, generally at 5-year intervals.[5] To facilitate collection and reporting procedures, establishments are classified into industries on the basis of their principal product or activity in accordance with the *Standard Industrial Classification Manual*, published by the Office of Management and Budget. The structure of the classification system makes it possible to tabulate, analyze, and publish establishment data on a division, a 2-digit, a 3-digit, or a 4-digit industry code basis, according to the level of industrial detail considered most appropriate. Additional subdivisions within the specific 4-digit industries may be adopted.

The censuses for the current (1982) series include Agriculture, Construction, Manufactures, Minerals, Retail Trade, Selected Service Industries, and Wholesale Trade. These enumerations provide, in addition to financial data, payroll and employment totals broken out by appropriate classifications. The contents of reports vary, depending on the nature of the sector and the complexity of the data collected. For example, the *Census of Manufactures* presents aggregate payroll data and number of employees and shows separately total production workers, their total wages, and their total hours.

In addition to quinquennial censuses, the Bureau collects and publishes annually survey results for manufacturing, retail trade, and wholesale trade. In addition to aggregate payroll and employment data, the *Annual Survey of Manufactures* collects supplemental labor costs categorized by employer expenditures on legally required benefits, including Social Security, and payments for voluntary programs.

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[2] See chapter 4 of this bulletin, "Earnings Statistics from the Current Population Survey," for a description of the CPS and its uses by BLS. Other agencies, such as the Social Security Administration and the Economic Research Service, also report on demographic and economic data collected in the CPS.

[3] A historical and analytical summary of income data collected by the CPS appears in Technical Paper 17, *Trends in the Income of Families and Persons in the United States: 1947 to 1964*, published by the Bureau of the Census in 1967. An update to this paper is planned for 1986.

[4] See John E. Bregger and Paul M. Ryscavage, "New Household Survey and the CPS: A Look at Labor Force Differences," *Monthly Labor Review*, September 1985, pp. 3-12.

[5] The Census Bureau defines an establishment as a single physical location engaged in a specific line of business. An establishment is not necessarily identical with the enterprise or company, which may consist of one or more establishments. A Standard Enterprise Industrial Classification system has been developed for use in classifying enterprises. An example of enterprise reports produced by Census is *Enterprise Statistics: A General Report on Industrial Organization*, which is issued every 5 years.

Government surveys. A census is taken every 5 years of State and local governments to collect data on total employees and aggregate payrolls. To provide information to update the census, the *Annual Survey of State and Local Governments* is conducted of all States and a sample of local governments. Employment and payroll tables show data by function (education, highways, police and fire protection, etc.) and level of government.

Other reports. County Business Patterns is a multivolume annual publication of the Census Bureau. The report contains number of employees and establishments (total and establishment-size class), and total payrolls (first quarter and annual) organized by Standard Industrial Classification codes. Information for the United States as a whole, States, and metropolitan statistical areas is shown separately.

The Bureau of Economic Analysis (BEA)

Unlike the Census Bureau, BEA conducts no censuses or surveys. Its major function is the production of national income and product accounts based on records and data collected by various Federal agencies and approximately 60 nongovernmental organizations.

The primary vehicle for BEA output is the *Survey of Current Business*, a comprehensive monthly report on economic conditions and business activity. Reported each month are selected national income and product accounts and current business statistics. Among the items are aggregate personal income by source (wages, rents, dividends, etc.) and disposition (personal tax payments, consumption expenditures, and savings). Specified issues of the *Survey* carry quarterly estimates of State personal income and annual estimates for metropolitan statistical areas and counties.

A biennial supplement to the *Survey*, titled *Business Statistics*, contains historical tables with titles that closely follow those in the *Survey*. It also provides descriptions and sources for earlier figures.

Greater detail on personal income can be found in *Local Area Personal Income*, an annual report on total personal income by source, and labor and proprietors' income by industry division and place of work. Data are shown for States, metropolitan statistical areas, and counties.

Every 5 years, BEA prepares a set of demographic and economic projections and publishes them in *Regional Projections*, the most recent edition of which appeared in 1985. Among the estimates are projections of personal income by source, and aggregate earnings and employment for 57 industrial sectors, separately for the Nation and States. The projections for metropolitan statistical areas are less detailed. Using different assumptions about likely growth, BEA analysts provide alternative scenarios.

DEPARTMENT OF AGRICULTURE

The data collecting and publishing agency at the Department of Agriculture is the Statistical Reporting Service (SRS). Another agency, the Economic Research Service (ERS), issues reports on aspects of the farm sector, using data gathered for it. While the bulk of reports emphasize commodities, livestock, and food consumption, the following contain wage rates, income, and benefits data.

Statistical Reporting Service

Data on self-employed, unpaid, and hired farm workers, derived from a survey of farm operators, are published quarterly in *Farm Labor.*[6] This report contains information on the number of employees, average hours worked per week, wage rates per hour, and methods of pay. State and regional data are shown. Perquisites such as room and board are given; and an index of change in farm wage rates is included. Total farm operator expenditures for life and health insurance, pensions, and Social Security are provided.[7]

Economic Research Service

This agency issues a biennial report—*Hired Farm Working Force*—which includes data on total earnings (total annual and annual farm) of persons hired to do farm work. Unlike reports based on Statistical Reporting Service surveys, this publication uses information gathered every other December by the Census Bureau from households included in the Current Population Survey.[8] In 1985, ERS broadened the scope of its study to include all agricultural workers—self-employed, unpaid, and hired. Unpaid workers include family members doing farm work without pay. Self-employed generally are equated with farm operators.

Occasionally, the Economic Research Service prepares special reports that focus on income or compensation. For example, in 1982, a report, *Indirect Farm Labor and Management Costs*, examined the effect of mandatory and voluntary employee benefits on farm labor costs and farm ownership.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Social Security Administration (SSA)

The Office of Research, Statistics, and International

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[6] Quarterly reports were published until 1982, when annual reports began. A quarterly reporting schedule was resumed in October 1984.

[7] In 1983, SRS issued a special supplement to *Farm Labor* showing historical data on farm wage rates for 1974-82. In the same year, as an aid to data users, SRS published a revised edition of its handbook, *Scope and Methods of the Statistical Reporting Serivce*.

[8] The Census Bureau asks households included in the CPS whether any member earned money from farm work during the year. Those who answer "yes" are asked questions designed to profile farm workers.

Policy of SSA produces a flow of reports based on data files that are maintained for the administration of the agency's programs. These programs include Old-Age, Survivors, and Disability Insurance (Social Security), Supplemental Security Income (SSI), Aid to Families with Dependent Children (AFDC), and Child Support Enforcement. The Office of Research also conducts surveys to collect information not in these records in order to evaluate selected features of the various programs.

The primary publication of the SSA is the monthly *Social Security Bulletin*. It regularly contains tables of current operating statistics that show cash benefit payments under public income-maintenance programs. Quarterly statistics supplement monthly data and include tables giving average monthly cash benefits by sex and other demographic characteristics.

In addition to statistical data, the *Bulletin* contains articles on special surveys or which analyze aspects of the Administration's programs. For example, findings of the New Beneficiary Survey that examines characteristics and sources of income of recent retirees have appeared in the *Bulletin*. The Office of Research, Statistics, and International Policy also publishes its work in individual research reports and staff papers.

SSA data appear in greater detail in the Annual Statistical Supplement to the *Bulletin*, which provides historical information from the start of programs. These data are based on information from SSA, Commerce Department, Treasury Department, and other Federal, State, and local agencies. The Supplement has sections reporting on workers with taxable earnings, beneficiaries and benefits, and the poor by broad age groups and sources of income. Detailed information is provided for all programs administered by SSA.

Every other year, SSA issues *Income of the Population 55 and Over* based on data collected in the March CPS. It contains data on total income and income by source of married couples and ummarried persons aged 55 and over by such characteristics as poverty status, age, and race. Income sources include earnings, Social Security benefits, government and private pensions, income from assets, veterans' benefits, unemployment and workers' compensation, and others.

Health Care Financing Administration (HCFA)

The Office of Research and Demonstrations of HCFA publishes a quarterly journal, *Health Care Financing Review*, which reports on programs administered by HCFA, including Medicare and Federal participation in Medicaid. The journal also carries articles on employee health insurance benefits.

DEPARTMENT OF DEFENSE

The Directorate of Information, Operations, and Reports annually publishes *Atlas/State Data Abstracts for the United States*, which contains tables showing number of personnel and payroll outlays for uniformed personnel on active duty, civilian employees, and members of the Reserve and National Guard. Also included are the number of retirees and aggregate pension payments.

DEPARTMENT OF EDUCATION

The National Center for Education Statistics issues an annual report, *College Faculty Salaries*, which presents estimates of average salaries and fringe benefits for higher education faculty. Regional, State, and other geographic details are given. The data are obtained from the Higher Education General Information Survey of educational institutions, including U.S. service schools.

The Center also publishes annually the *Digest of Education Statistics*. Included in the *Digest* are tables of average annual salaries of instructional staff in public elementary and secondary schools. The data are collected through a survey of State education agencies. The *Digest* also shows the average beginning monthly salaries of college and university graduates by degree and by broad fields of specialty (social sciences, humanities, etc.). This is derived from information made available by the College Placement Council. (The Council is a private association that provides information to career planning and placement directors at 2-and 4-year colleges and universities, as well as to employers who hire graduates.)

DEPARTMENT OF ENERGY

The Office of Industrial Relations publishes the *Report on National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities*. Prepared by the Battelle Memorial Institute, Columbus Laboratories, this annual report focuses on the relation of age and experience to level of annual earnings. It is based on a survey of employees and employers at five types of establishments: Nonprofit research institutes, educational institutions, federally funded contract R&D centers, Federal establishments, and industry.

NATIONAL SCIENCE FOUNDATION (NSF)

More comprehensive information on the income of scientists and engineers is published by the National Science Foundation in two biennial reports. One, *Characteristics of Doctoral Scientists and Engineers in the U.S.*, provides data on median annual earnings, and demographic and employment characteristics. The information is obtained by the National Academy of Sciences for the NSF from a stratified sample of scientists and engineers. A companion study, ***Characteristics of Recent Science and Engineering Graduates***, gives similar data for recent graduates.

DEPARTMENT OF TRANSPORTATION

Although the Maritime Administration no longer publishes *Seafaring Wage Rates*, current data on monthly base rates paid to licensed and unlicensed personnel employed on board oceangoing U.S. flag ships are available in its files. Rates are available by occupation and type of ship. A chronology of employer contributions per day to pension, welfare, and vacation plans is also maintained. The files are compiled from records of the Maritime Administration, labor-management agreements, arbitrators' awards, trustees' actions, and pension, welfare, and vacation plans.

DEPARTMENT OF THE TREASURY

The Internal Revenue Service publishes *Statistics of Income: Individual Income Tax Returns*, an annual study of a stratified sample (by State) of unaudited individual income tax returns. Presented are aggregate data on total adjusted gross income (by income class), taxable income, and income after tax credits. Separate information for States and other areas is provided.

INTERSTATE COMMERCE COMMISSION (ICC)

ICC publishes *Wage Statistics of Class I Railroads in the U.S.*, an annual report on occupational earnings, hours, and vacation and other benefits of employees. Data are by occupational group: Executives, officials, and staff assistants; professional, clerical, and general; maintenance (two groups); and transportation (two groups). Aggregate data on employment and payroll for motor carriers are published annually in *Transport Statistics in the United States, Part II: Motor Carriers*.[9]

U.S. OFFICE OF PERSONNEL MANAGEMENT (OPM)

The Office of Personnel Management maintains a Central Personnel Data File that contains a wide array of information on civilian employees of the Federal Government. It periodically publishes reports, using statistics from this file. One ongoing series is ***Federal Civilian Work Force Statistics*** that includes a report on the ***Pay Structure of the Federal Civil Service***. This report is issued monthly as "Monthly Release" and annually under the full title. Data include grade and total and average salary statistics by pay system and geographic area of full-time Federal civilian employees by agency. Excluded are employees of the Central Intelligence Agency, the National Security Agency, and the Judicial Branch (except the Administrative Office of the U.S. Courts). Every other year, OPM publishes *Affirmative Employment Statistics* which shows for the Federal sector salary by race, national origin, agency, pay plan, and grade.

Occupational earnings levels by selected characteristics can be found in ***Occupations of Federal White-Collar and Blue-Collar Workers***, a biennial report on Federal full-time civilian white- and blue-collar employees. This report provides information on occupation, agency, pay system, grade, salary, supervisory status, sex, and major geographic area.

OPM also maintains a computer data base of all collective bargaining agreements covering Federal workers, together with third-party agreements growing out of these contracts. Called the Labor Agreements Information Retrieval System (LAIRS), the collection of information excludes quasi-governmental agencies such as the Postal Service or the Railroad Retirement Board. While Federal contracts exclude wage bargains, some benefits may be specified.

U.S. RAILROAD RETIREMENT BOARD

The Board publishes an annual report and statistical supplement which together provide detailed data on benefits paid under railroad retirement, unemployment insurance, and sickness benefit programs.

SECURITIES AND EXCHANGE COMMISSION (SEC)

Data on private noninsured pension funds are available in the Commission's files but no longer are published by the SEC. The information includes employer and employee contributions to and aggregate benefits paid from pension funds of corporations, nonprofit organizations, and union and multiemployer groups, except funds managed by insurance companies. The file also includes deferred profit-sharing plans, but excludes health, welfare, and bonus plans.

NEW YORK STATE

A monthly report, *Employment Review, New York State*, is published on total employment and average earnings and weekly hours for workers in New York State, New York City, and selected areas of upstate New York. The data, which are shown by industry, are from Federal and State government records. Among special articles which appear annually is a review of demographic and economic data by employment status, sex, race, and other characteristics, based on information derived from the CPS.

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[9] Parts I, III, IV, V, and VI of *Transport Statistics in the United States* are no longer published. These volumes covered data on regulated companies such as railroads, freight forwarders, private railroad car lines, and carriers by water, and by pipelines.

The Division of Research and Statistics of the State's Department of Labor collects occupational wage data and publishes bulletins for selected industries, such as retail food stores, fabricated textile products, and handbag and purse manufacturing.

The Research Division also maintains a file of collective bargaining agreements and issues a quarterly report, *Collective Bargaining Settlements in New York State*, which summarizes terms of each settlement affecting 250 or more workers in the State. Statistical summaries also are provided.

STATE OF CALIFORNIA

Labor force information, including earnings and hours, is available in several State publications based on data compiled from a variety of sources. The most comprehensive is *California Statistical Abstract*, an annual collection of social and economic statistics, taken from reports of the State and the Federal Government, public utilities, and financial institutions. It is divided into several sections, including labor force, employment, income, and cost of living. Selected historical trends are included.

Also produced is *California Labor Market Bulletin*, a monthly report on average earnings and weekly hours, providing data by age group, race, sex, industry, and county. The information is compiled by the State in cooperation with the U.S. Department of Labor.

Annual Planning Information, compiled from Census Bureau and other Federal and State sources, covers labor force data as well as household and family income by selected characteristics.

Norma W. Carlson
Office of Wages
and Industrial Relations

Appendix table 1. Checklist of selected Federal agencies (other than the Bureau of Labor Statistics) and their publications having compensation information

Federal agency and publication	Type of data	Coverage	Primary source of data	Periodicity
Department of Agriculture:				
Statistical Reporting Service				
Farm Labor	Wage rates, supplemental labor costs	Farm workers	Sample survey of farm operators	Quarterly
Economic Research Service				
Hired Farm Working Force	Earnings	Farm workers	Current Population Survey	Biennial
Department of Commerce:				
Bureau of the Census				
1980 Population Census	Income, earnings	Households, families, and individuals	Census	Decennial
Consumer Income (Series P-60)	Income, noncash benefits	Households, families, and individuals	Current Population Survey	Annual
Household Economic Studies (Series P-70)	Income, benefits, wealth	Households, families, and individuals	Survey of Income and Program Participation	Quarterly
Economic Censuses and *Annual Surveys* (Agriculture, manufacturing, services, governments, etc.)	Payroll, supplemental labor costs	Establishments	Census and survey	Quinquennial and annu
County Business Patterns	Payroll	Establishments	Census and survey	Annual
Bureau of Economic Analysis				
Survey of Current Business	Personal income	Individuals	Assorted government and private agencies	Monthly
Business Statistics	Personal income	Individuals	Assorted government and private agencies	Biennial
Local Personal Income	Personal income	Individuals	Assorted government and private agencies	Annual
Regional Projections	Personal income	Individuals	Assorted government and private agencies	Quinquennial
Department of Health and Human Services:				
Social Security Administration				
Social Security Bulletin and annual *Statistical Supplement*	Program benefits	Households, families, and individuals	In-house data files	Monthly
Income of the Population 55 and Over	Income	Households, families, and individuals	Current Population Survey	Biennial
Health Care Financing Administration				
Health Care Financing Review	Program benefits	Individuals	In-house data files	Quarterly
Department of Defense:				
Directorate of Information, Operations, and Reports				
Atlas/State Data Abstracts for the United States	Payroll, pensions	Military personnel and civilian employees	In-house data files	Annual
Department of Education:				
National Center for Education Statistics				
College Faculty Salaries	Salary, fringe benefits	College and university faculty	Higher Education General Information Survey	Annual
Digest of Education Statistics	Salary	Public elementary and secondary school teachers; college and university graduates	Survey of State education agencies; College Placement Council	Annual
Department of Energy:				
Office of Industrial Relations				
Report on National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities	Salary	Scientists, engineers	Survey	Annual
Department of the Treasury:				
Internal Revenue Service				
Statistics of Income: Individual Income Tax Returns	Income	Individuals	Survey of tax returns	Annual
Interstate Commerce Commission:				
Wage Statistics of Class I Railroads in the U.S.	Occupational earnings, fringe benefits	Railroad employees	Railroad reports	Annual

Appendix table 1. Continued—Checklist of selected Federal agencies (other than the Bureau of Labor Statistics) and their publications having compensation information

Federal agency and publication	Type of data	Coverage	Primary source of data	Periodicity
Transport Statistics in the United States Part II: Motor Carriers	Payroll	Motor carriers	Motor carrier reports	Annual
National Science Foundation:				
Characteristics of Doctoral Scientists and Engineers in the U.S.	Salary	Scientists and engineers	Survey	Biennial
Characteristics of Recent Science and Engineering Graduates	Salary	Scientists and engineers	Survey	Biennial
Office of Personnel Management:				
Federal Civilian Work Force Statistics: Pay Structure of the Federal Civil Service	Salary	Federal Government employees	Central personnel data files	Monthly and annual
Affirmative Employment Statistics	Salary	Federal Government employees	Central personnel data files	Biennial
Occupations of Federal White-collar and Blue-collar Workers	Salary	Federal Government employees	Central personnel data files	Biennial
U.S. Railroad Retirement Board:				
Annual report and statistical supplement	Pensions	Railroad retirees	In-house data files	Annual

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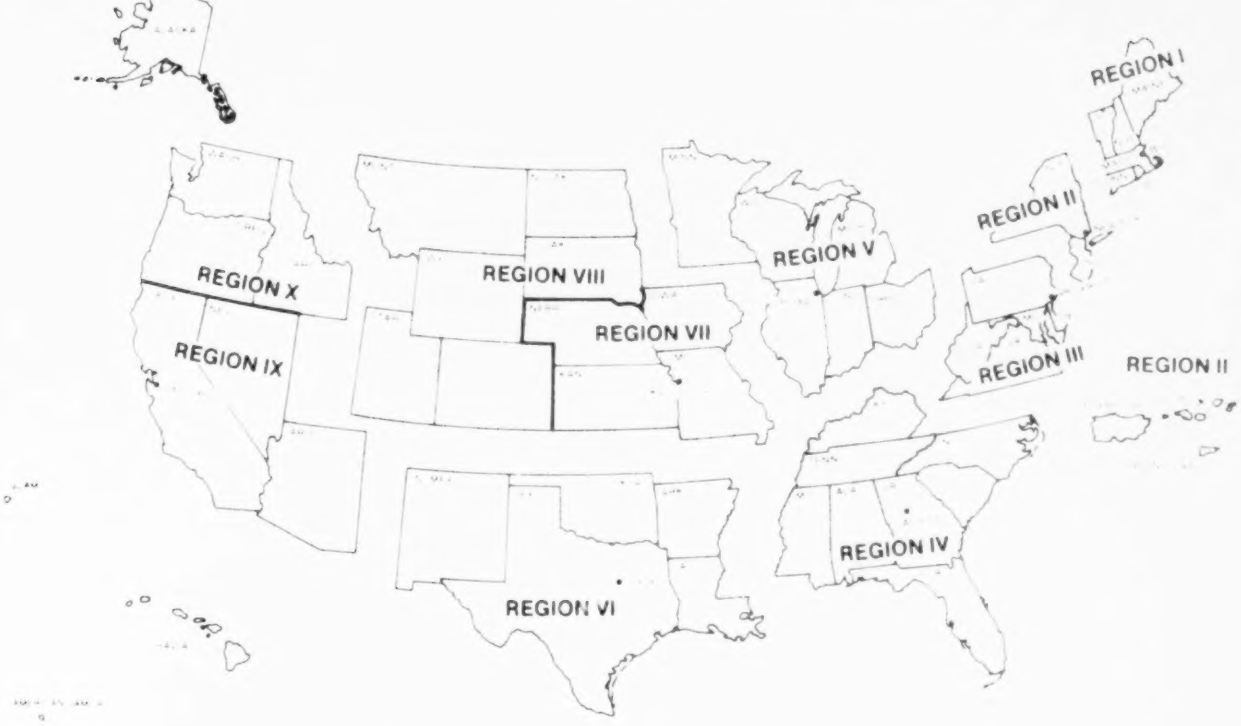
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